CONTRACT NO. A932-159
FINAL REPORT - APPENDICES
FEBRUARY 1994

Effect of Use of Low Oxygenate Gasoline Blends upon Emissions from California Vehicles

Appendices

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

AIR RESOURCES BOARD
Research Division

Effect of Use of Low Oxygenate Gasoline Blends upon Emissions from California Vehicles

Final Report
Appendices

Contract No. A932-159

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February, 1994

APPENDIX A
VEHICLE DESCRIPTION

Appendix A

Vehicle Description

Vehicle	Description	Incoming Odomenter	VIN	Catalyst Config. Single/Dual	Engine Family	Adap L. Yes/No	Emission Controls	Engine Fuel Delivery	Evap. Family	Canister Conf. Open/Closed	EGR Yes/No	Air Inj Yes/No
O1	1990 Olds Calais	15632	1G3NK54D1LM758792	Single	L2G2.3W8XEW6	Yes	CL/TWC	2.3L/EFI	LAO-2G	Closed	No	No
O2	1985 Chevy S/10 Blazer	56332	1G8CS18B9F8272246	Single	Not Legible	No	CL/TWC	2.8L/2bbl	Not Legible	Closed	Yes	Yes
O3	1973 Olds Cutlass	132622	3J29K3M39333	N/A	Not Legible	No	OL/No Cat	350 cid/4bbl	Not Legible	Open	Yes	No
O4	1990 Mercury Cougar	19243	1MEPM6045LH636961	Single	LFM3.8V5FXC5	yes	CL/TWC	3.8L/EFI	3.8L-9HM	Closed	Yes	No
O5	1990 Honda Accord	9143	1HGCB7543LA000067	Single	LHN2.2V5FFCX	Yes	CL/TWC	2.2L/EFI	90FG	Open	Yes	No
O6	1990 Dodge Dynasty	26668	1B3XC4639LD798740	Single	LCR3.0V5FCF0	Yes	CL/TWC	3.0L/EFI	LCRVC	Closed	Yes	No
O7	1983 Plymouth Reliant	85706	1P3BP26CXDF304361	Dual	DCR2.2V2HCL7	No	CL/TWC	2.2L/2bbl	DCRKA	Closed	Yes	Yes
O8	1987 Ford Excort	65488	1FAPP23J6HW304524	Dual	HFM1.9V5HMKX	Yes	CL/TWC	1.9L/EFI	1.9L-7BM	Closed	Yes	Yes
O9	1986 Chevy Cavalier	76424	1G1JD77POGJ294422	Single	G1G2.0W5XAG7	Yes	CL/TWC	2.0L/TBI	6BO-1H	Open	Yes	No
10	1976 Ford Granada	77924	F6W83H279879	Dual	EGR/AIR/1CEF	No	OL/OC	351cid/2bbl	1CEF	Closed	Yes	Yes
11	1984 Chrys. New Yorker	101105	1C3BF66PXEX500443	Dual	ECR5.2V2HCK9	No	CL/TWC	318cid/2bbl	ECRVE	Closed	Yes	Yes
12	1978 Toyota Celica	155597	RA29147581	Single	20RC	No	OL/OC	133.6cid/2bbl	No Code	Open	Yes	Yes
13	1991 Ford Taurus(F/F)	5180	1FACP52U7MG204075	Single	LFM3.0V5FXG5	Yes	CL/TWC	3.0L/EFI	3.0L-9HM	Closed	No	No

APPENDIX B
FUEL INSPECTIONS

Certificate of Analysis

PHILLIPS 66 COMPANY
A DIVISION OF PHILLIPS PETROLEUM COMPANY

SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

New Winter Base

DATE OF SHIPMENT
11-25-92

CUSTOMER ORDER NO.

INV./REQN. NO.

CARB/ATL WINTER BASE
LOT NO. R-714

TESTS	RESULTS	SPECIFICATIONS	METHOD
Specific Gravity 60/60	.7489	Report	ASTM D-4052
API Gravity	57.4	Report	ASTM D-1298
Corrosion	1a	Report	ASTM D-130
Hydrogen Wt%	13.06	Report	ASTM D-3343
Carbon Wt%	86.94	Report	ASTM D-3343
Oxidation Stability (min)	240+	240 Min	ASTM D-525
Reid Vapor Pressure	9.5	9.4-10.0	ASTM D-4814
TEL (ml/gal)	0.00	0.05 Max	ASTM D-3237
Distillation, °F			**ASTM D-86**
IBP	88		
5%	102		
10%	113	110+/-5	
20%	128		
30%	146		
40%	176		
50%	218	214+/-5	
60%	248		
70%	274		
80%	302		
90%	332	334+/-5	
95%	362		
EP	422		
Loss	1.6		
Residue	0.9		
Hydrocarbon Type, Vol. %			**ASTM D-1319**
Aromatics	34.5	34+/-3.0	
Olefins	8.7	7+/-2.0	
Saturates	56.8	Report	
Research Octane No.	94.5	Report	ASTM D-2699
Motor Octane No.	85.19	Report	ASTM D-2700
Antiknock Index	89.8	87-92	

GPA:DGD:be

FORM 8626-N 1

Laboratory Report

PHILLIPS 66 COMPANY
A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB SUMMER #1
LOT K-945

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7527	Report	ASTM D-4052
Corrosion	1b	1	ASTM D-130
Sulfur, wt%	0.000	Report	ASTM D-4294
Hydrogen Wt%	12.8	Report	
Carbon Wt%	87.0	Report	
Oxidation Stability(min)	240+	240 Min	ASTM D-525
Existent Gums(mg/100ml)	1.8	5 Max (washed)	ASTM D-381
Reid Vapor Pressure	7.7	7.4-7.8	ASTM D-4814
TEL (ml/gal)	0.000	0.05 Max	ASTM D-3237
Distillation, °F		Report	ASTM D-86
IBP	98		
5%	122		
10	132	127 ± 5	
20	148		
30	168		
40	189		
50	218	223 ± 5	
60	247		
70	277		
80	303		
90	332	335 ± 5	
95	360		
EP	420		
Loss	0.5		
Residue	0.5		
Hydrocarbon Type, Vol %			ASTM D-1319
Aromatics	38.5	39.0 ± 3	
Olefins	7.0	6.5 ± 2	
Saturates	54.5	Report	
Research Octane Number	93.6	Report	ASTM D-2699
Motor Octane Number	84.5	Report	ASTM D-2700
Antiknock Index	89.0	87-92	

VRK/LK:ekl

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O BOX 968
BORGER, TX 79008-0968

ATL-CARB WINTER #2
LOT K-973

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7386	Report	ASTM D-4052
Corrosion	1b	1	ASTM D-130
Hydrogen Wt%	13.0	Report	
Carbon Wt%	86.8	Report	
Oxidation Stability(min)	240+	240 Min	ASTM D-525
Existent Gums(mg/100ml)	0.12	5 Max (washed)	ASTM D-381
Reid Vapor Pressure	9.6	9.4-10.0	ASTM D-4814
TEL (ml/gal)	0.000	0.05 Max	ASTM D-3237
Distillation, °F		Report	ASTM D-86
IBP	89		
5%	107		
10	115	110 ± 5	
20	129		
30	144		
40	170		
50	210	214 ± 5	
60	244		
70	270		
80	298		
90	329	334 ± 5	
95	357		
EP	419		
Loss	0.6		
Residue	0.8		
Hydrocarbon Type, Vol %			ASTM D-1319
Aromatics	33.2	34.0 ± 3	
Olefins	5.1	7.0 ± 2	
Saturates	61.7	Report	
Research Octane Number	93.1	Report	ASTM D-2699
Motor Octane Number	84.6	Report	ASTM D-2700
Antiknock Index	88.8	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB SUMMER #3
LOT K-794

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7519	Report	ASTM D-4052
MTBE, LV%	11.0	11.0 ± 0.5	Chromatography
Reid Vapor Pressure	7.7	7.4-7.8	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	94		
5%	122		
10	132		
20	145		
30	158		
40	174		
50	194		
60	227		
70	264		
80	294		
90	325		
95	350		
EP	413		
Loss	0.6		
Residue	0.8		
Research Octane No.	96.0	Report	ASTM D-2699
Motor Octane No.	86.6	Report	ASTM D-2700
Antiknock Index	91.3	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB WINTER #4
LOT K-911

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7894	Report	ASTM D-4052
MTBE, LV%	15.3	15.0 ± 0.5	Chromatography
Reid Vapor Pressure	9.6	9.4 - 10.0	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	93		
5%	110		
10	118		
20	128		
30	138		
40	151		
50	174		
60	208		
70	250		
80	285		
90	320		
95	350		
EP	415		
Loss	0.7		
Residue	0.7		
Research Octane Number	97.2	Report	ASTM D-2699
Motor Octane Number	86.8	Report	ASTM D-2700
Antiknock Index	92.0	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

SPECIALTY CHEMICALS
P O. BOX 968
BORGER, TX 79008-0968

ATL-CARB SUMMER #5
LOT K-969

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7527	Report	ASTM D-4052
ETBE, LV%	12.8	12.7 ± 0.5	Chromatography
Reid Vapor Pressure	7.5	7.4 - 7.8	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	99		
5%	128		
10	139		
20	154		
30	167		
40	182		
50	199		
60	223		
70	258		
80	293		
90	325		
95	350		
EP	413		
Loss	0.7		
Residue	0.9		
Research Octane No.	96.4	Report	ASTM D-2699
Motor Octane No.	86.8	Report	ASTM D-2700
Antiknock Index	91.6	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB WINTER #6
LOT K-999

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7398	Report	ASTM D-4052
ETBE, LV%	17.3	17.2 ± 0.5	Chromatography
Reid Vapor Pressure	9.7	9.4 - 10.0	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	89		
5%	113		
10	123		
20	136		
30	149		
40	168		
50	191		
60	215		
70	246		
80	285		
90	322		
95	351		
EP	412		
Loss	0.9		
Residue	0.9		
Research Octane Number	96.6	Report	ASTM D-2699
Motor Octane Number	87.4	Report	ASTM D-2700
Antiknock Index	92.0	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB SUMMER #7
LOT K-960

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7571	Report	ASTM D-4052
Ethanol, LV%	5.7	5.70 ± 0.5	Chromatography
Reid Vapor Pressure	7.6	7.4 - 7.8	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	100		
5%	122		
10	128		
20	136		
30	146		
40	174		
50	206		
60	237		
70	269		
80	297		
90	328		
95	354		
EP	411		
Loss	0.5		
Residue	1.0		
Research Octane No.	95.3	Report	ASTM D-2699
Motor Octane No.	85.1	Report	ASTM D-2700
Antiknock Index	90.2	87-92	

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02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB WINTER #8
LOT K-976

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7485	Report	ASTM D-4052
Ethanol, LV%	7.6	7.75 ± 0.5	Chromatography
Reid Vapor Pressure	9.6	9.4 - 10.0	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	94		
5%	111		
10	117		
20	126		
30	135		
40	146		
50	170		
60	226		
70	258		
80	290		
90	326		
95	353		
EP	415		
Loss	0.5		
Residue	0.1		
Research Octane No.	95.6	Report	ASTM D-2699
Motor Octane No.	85.1	Report	ASTM D-2700
Antiknock Index	90.3	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
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SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

ATL-CARB SUMMER #9
LOT K-966

Summer Splash Blend

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7555	Report	ASTM D-4052
Ethanol, LV%	5.4	5.70 ± 0.5	Chromatography
Reid Vapor Pressure	8.5	8.8 Max	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	96		
5%	118		
10	125		
20	134		
30	143		
40	172		
50	203		
60	235		
70	267		
80	296		
90	327		
95	354		
EP	408		
Loss	0.5		
Residue	1.0		
Research Octane No.	95.4	Report	ASTM D-2699
Motor Octane No.	85.1	Report	ASTM D-2700
Antiknock Index	90.3	87-92	

VRK/LK:ekl
02-11-91

Laboratory Report

PHILLIPS 66 COMPANY
A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

SPECIALTY CHEMICALS
P.O. BOX 968
BORGER, TX 79008-0968

winter splash blend

ATL-CARB WINTER #10
LOT K-983

Tests	Results	Specifications	Method
Specific Gravity 60/60	0.7436	Report	ASTM D-4052
Ethanol, LV%	7.7	7.75 ± 0.5	Chromatography
Reid Vapor Pressure	10.7	11.0 Max	ASTM D-4814
Distillation, °F		Report	ASTM D-86
IBP	89		
5%	107		
10	114		
20	123		
30	133		
40	145		
50	171		
60	226		
70	257		
80	291		
90	329		
95	359		
EP	418		
Loss	0.4		
Residue	0.8		
Research Octane Number	95.5	Report	ASTM D-2699
Motor Octane Number	85.1	Report	ASTM D-2700
Antiknock Index	90.3	87-92	

VRK/LK:ekl
02-11-91

APPENDIX C
EXHAUST HC DATA

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
1	Summer	75	Base	01/21/92	M	SummerBase	0.189	0.782	0.019	0.062	0.038	0.357
1	Summer	75	MTBE	02/11/92	O	11%MTBE	0.155	0.610	0.017	0.069	0.035	0.214
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	0.151	0.596	0.023	0.058	0.044	0.291
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	0.173	0.685	0.025	0.066	0.053	1.016
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	.	.	.	.	0.053	0.468
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	0.177	0.736	0.015	0.061	0.038	0.385
1	Summer	95	Base	05/04/92	M	SummerBase	0.294	1.002	0.022	0.273	0.114	0.616
1	Summer	95	MTBE	07/10/92	O	11%MTBE	0.277	0.918	0.031	0.257	0.098	0.555
1	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.253	0.888	0.014	0.227	0.093	0.391
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	0.260	0.866	0.020	0.257	0.124	0.639
1	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	0.060	
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	0.283	0.921	0.019	0.297	0.069	0.793
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	.	.	.	.	.	
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	0.310	1.239	0.024	0.153	0.045	0.623
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	0.370	1.499	0.027	0.164	0.049	1.195
1	Winter	50	MTBE	09/09/91	P	15%MTBE	0.313	1.244	0.022	0.145	0.043	0.262
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	0.374	1.452	0.036	0.179	0.083	0.273
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	0.371	1.463	0.038	0.156	0.047	0.298
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	0.323	1.277	0.029	0.146	0.051	0.253
1	Winter	75	Base	02/25/92	N	WinterBase	0.292	0.930	0.027	0.312	0.042	0.218
1	Winter	75	Base	08/10/92	N	WinterBase	0.178	0.690	0.028	0.073	0.042	0.482
1	Winter	75	MTBE	01/17/92	P	15%MTBE	0.159	0.604	0.025	0.076	0.052	1.079
1	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	0.342
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	0.148	0.583	0.012	0.074	0.046	0.409
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	0.182	0.666	0.032	0.099	0.089	0.436
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	0.228	0.746	0.021	0.227	0.088	0.491
2	Summer	75	Base	02/07/92	M	SummerBase	1.433	2.926	0.961	1.195	0.581	2.191
2	Summer	75	MTBE	02/11/92	O	11%MTBE	1.180	2.558	0.734	0.980	0.394	1.966
2	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	1.183	2.523	0.723	1.038	0.512	1.875
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	1.478	2.689	1.079	1.318	0.436	2.770
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1.347	2.816	0.855	1.164	0.391	2.188
2	Summer	95	Base	05/06/92	M	SummerBase	1.404	2.671	0.984	1.240	0.482	4.993
2	Summer	95	MTBE	07/11/92	O	11%MTBE	1.389	2.762	0.860	1.351	0.542	2.680
2	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	1.272	2.372	0.918	1.110	0.489	3.511
2	Summer	95	ETBE	10/08/92	Q	12.8%ETBE	.	.	.	.	.	2.655
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	1.278	2.379	0.890	1.183	0.435	2.141
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	.	.	.	.	.	2.722

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	1.312	2.633	0.842	1.202	0.200	2.732
2	Summer	95	EtOH/SB	09/10/92	U	5.7%EtOH/SB	.	.	.	.	0.559	.
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	1.893	5.040	0.898	1.393	0.472	2.757
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	2.098	5.724	0.967	1.496	0.496	3.029
2	Winter	50	MTBE	08/22/91	P	15%MTBE	1.387	3.905	0.614	0.881	0.349	1.991
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	1.424	3.904	0.680	0.877	0.451	2.262
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	1.586	3.870	0.894	1.107	0.484	2.321
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	1.551	4.059	0.807	1.010	0.403	2.429
2	Winter	75	Base	03/05/92	N	WinterBase	1.573	2.939	1.132	1.372	0.457	2.502
2	Winter	75	MTBE	02/21/92	P	15%MTBE	1.277	2.607	0.823	1.128	0.343	1.527
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	1.342	2.925	0.806	1.157	0.468	2.387
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	1.435	2.944	1.079	0.969	0.652	3.535
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	1.477	2.906	1.027	1.247	0.500	3.634
3	Summer	75	Base	02/26/92	M	SummerBase	2.217	2.566	2.015	2.335	1.157	4.189
3	Summer	75	MTBE	02/27/92	O	11%MTBE	1.953	3.258	1.573	1.690	0.927	4.370
3	Summer	75	MTBE	08/05/92	O	11%MTBE	2.202	2.979	1.787	2.400	0.942	3.807
3	Summer	75	ETBE	03/06/92	Q	12.8%ETBE	2.056	2.458	1.698	2.427	1.021	4.306
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1.867	3.122	1.396	1.813	1.017	3.859
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	1.948	3.314	1.409	1.936	0.782	3.749
3	Summer	95	Base	07/23/92	M	SummerBase	2.672	3.891	2.249	2.551	2.255	5.261
3	Summer	95	MTBE	07/15/92	O	11%MTBE	2.453	3.552	2.114	2.265	1.596	5.906
3	Summer	95	ETBE	07/21/92	Q	12.8%ETBE	2.264	3.086	1.992	2.158	1.393	5.208
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	2.298	3.491	1.907	2.139	1.942	5.570
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	1.945	4.239	1.226	1.601	0.751	3.623
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	2.268	4.236	1.645	1.964	0.877	3.898
3	Winter	50	MTBE	09/24/91	P	15%MTBE	2.013	4.193	1.200	1.813	0.737	4.941
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	2.428	5.906	1.295	1.818	0.782	3.892
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1.829	3.691	1.193	1.559	0.585	5.946
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	2.434	6.788	1.089	1.617	0.638	3.302
3	Winter	75	Base	03/17/92	N	WinterBase	2.363	3.304	1.945	2.441	1.080	4.175
3	Winter	75	Base	10/12/92	N	WinterBase	.	.	.	.	.	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	1.976	2.627	1.616	2.168	1.067	4.126
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	2.226	3.665	1.581	2.357	1.336	4.193
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	1.810	3.459	1.231	1.668	1.081	3.306
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	2.146	4.444	1.270	2.070	0.864	3.504
4	Summer	75	Base	01/13/92	M	SummerBase	0.311	0.973	0.122	0.169	0.062	0.243
4	Summer	75	MTBE	02/10/92	O	11%MTBE	0.252	0.933	0.057	0.105	0.050	0.179

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
4	Summer	75	MTBE	07/29/92	O	11%MTBE	0.252	0.877	0.072	0.120	0.043	0.390
4	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.263	0.952	0.056	0.135	0.058	0.246
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.287	0.997	0.058	0.183	0.050	0.309
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.255	0.881	0.049	0.171	0.036	0.236
4	Summer	95	Base	05/22/92	M	SummerBase	0.274	0.838	0.120	0.140	0.041	0.314
4	Summer	95	Base	10/20/92	M	SummerBase	.	.	.	.	.	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	0.257	0.846	0.081	0.142	0.046	0.262
4	Summer	95	ETBE	06/04/92	Q	12.8%ETBE	0.266	0.884	0.087	0.138	0.062	0.211
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.276	0.948	0.058	0.178	0.039	0.615
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.288
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	0.277	0.935	0.075	0.163	0.033	0.249
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	0.373	1.520	0.049	0.121	0.036	0.277
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	0.411	1.538	0.070	0.205	0.042	0.330
4	Winter	50	MTBE	08/21/91	P	15%MTBE	0.402	1.550	0.071	0.138	0.038	0.169
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	0.330	1.257	0.055	0.130	0.047	0.146
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	0.723	2.543	0.213	0.282	0.079	0.302
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	0.361	1.382	0.059	0.145	0.042	0.184
4	Winter	75	Base	02/04/92	N	WinterBase	0.256	0.888	0.051	0.165	0.039	0.314
4	Winter	75	MTBE	01/21/92	P	15%MTBE	0.266	0.868	0.074	0.176	0.081	0.209
4	Winter	75	MTBE	08/07/92	P	15%MTBE	0.293	0.833	0.143	0.170	0.073	0.335
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	0.240	0.772	0.078	0.146	0.046	0.222
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	0.258	0.823	0.077	0.173	0.041	0.411
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	0.262	0.825	0.089	0.162	0.046	0.407
5	Summer	75	Base	01/20/92	M	SummerBase	0.266	0.799	0.106	0.166	0.071	0.649
5	Summer	75	MTBE	02/10/92	O	11%MTBE	0.446	0.970	0.044	0.809	0.031	0.325
5	Summer	75	ETBE	02/17/92	Q	12.8%ETBE	0.185	0.668	0.060	0.055	0.036	0.540
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	0.253	0.779	0.108	0.129	0.048	0.392
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.224	0.795	0.066	0.092	0.032	0.480
5	Summer	95	Base	05/20/92	M	SummerBase	0.184	0.552	0.073	0.115	0.040	0.628
5	Summer	95	MTBE	07/08/92	O	11%MTBE	0.177	0.676	0.041	0.056	0.039	0.288
5	Summer	95	ETBE	06/05/92	Q	12.8%ETBE	0.139	0.471	0.048	0.061	0.055	0.190
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.160	0.575	0.048	0.060	0.030	0.571
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.466
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	0.140	0.491	0.040	0.064	0.031	0.425
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	0.520	1.937	0.147	0.164	0.024	0.659
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	0.312	1.233	0.058	0.097	0.042	2.939
5	Winter	50	MTBE	08/28/91	P	15%MTBE	0.449	1.801	0.065	0.133	0.026	0.281

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	0.294	1.092	0.061	0.113	0.036	0.795
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	0.362	1.209	0.138	0.131	0.036	0.496
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	0.292	1.159	0.047	0.092	0.028	0.242
5	Winter	75	Base	02/04/92	N	WinterBase	0.195	0.718	0.052	0.070	0.025	0.493
5	Winter	75	MTBE	01/05/92	P	15%MTBE	0.255	0.816	0.118	0.089	0.048	0.363
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.181	0.676	0.041	0.070	0.041	0.341
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.197	0.714	0.062	0.064	0.056	0.417
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	0.166	0.612	0.040	0.068	0.034	0.566
6	Summer	75	Base	02/04/92	M	SummerBase	0.848	2.574	0.101	0.952	0.090	0.656
6	Summer	75	MTBE	02/11/92	O	11%MTBE	0.770	2.063	0.111	1.037	0.084	0.644
6	Summer	75	ETBE	02/19/92	Q	12.8%ETBE	0.660	1.725	0.094	0.923	0.110	0.978
6	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.587	1.726	0.096	0.651	0.090	0.752
6	Summer	75	EtOH/SB	02/07/92	U	5.7%EtOH/SB	0.713	2.133	0.076	0.844	0.079	1.480
6	Summer	95	Base	05/05/92	M	SummerBase	0.674	1.552	0.103	1.093	0.113	5.274
6	Summer	95	MTBE	07/24/92	O	11%MTBE	0.634	1.490	0.107	0.983	0.093	1.914
6	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.563	1.428	0.077	0.829	0.098	2.620
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	0.592	1.554	0.095	0.801	0.147	1.571
6	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	0.613	1.517	0.092	0.912	0.122	1.466
6	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.876	2.715	0.076	1.002	0.089	3.019
6	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	0.914	2.807	0.119	0.982	0.150	7.505
6	Winter	50	MTBE	09/19/91	P	15%MTBE	0.891	2.528	0.101	1.099	0.105	3.010
6	Winter	50	ETBE	09/16/91	R	17.2%ETBE	0.819	2.434	0.102	0.912	0.101	3.112
6	Winter	50	EtOH	09/10/91	T	7.75%EtOH	0.757	2.406	0.104	0.716	0.099	2.645
6	Winter	50	EtOH/SB	09/05/91	V	7.75%EtOH/SB	0.705	2.195	0.138	0.627	0.123	2.485
6	Winter	75	Base	03/18/92	N	WinterBase	0.733	2.162	0.122	0.808	0.111	0.833
6	Winter	75	MTBE	12/02/91	P	15%MTBE	0.547	1.510	0.055	0.748	0.100	1.736
6	Winter	75	ETBE	02/24/92	R	17.2%ETBE	0.610	1.517	0.122	0.847	0.072	0.371
6	Winter	75	EtOH	01/31/92	T	7.75%EtOH	0.644	2.005	0.102	0.638	0.109	0.914
6	Winter	75	EtOH/SB	02/17/92	V	7.75%EtOH/SB	0.780	2.136	0.125	0.990	0.110	3.483
7	Summer	75	Base	01/17/92	M	SummerBase	0.425	1.109	0.127	0.471	0.045	0.468
7	Summer	75	MTBE	02/17/92	O	11%MTBE	0.433	1.360	0.102	0.360	0.049	0.263
7	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	0.406	1.113	0.162	0.334	0.055	0.187
7	Summer	75	EtOH	01/30/92	S	5.7%EtOH	0.458	1.171	0.179	0.447	0.038	0.431
7	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	0.491	1.323	0.142	0.523	0.136	0.291
7	Summer	95	Base	09/10/92	M	SummerBase	1.497	1.521	1.612	1.261	0.526	4.980
7	Summer	95	MTBE	09/01/92	O	11%MTBE	1.566	1.557	1.716	1.292	0.771	3.886
7	Summer	95	ETBE	09/04/92	Q	12.8%ETBE	1.470	1.564	1.610	1.135	0.339	4.315

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
7	Summer	95	EtOH	08/27/92	S	5.7%EtOH	1.633	1.644	1.759	1.385	0.477	4.556
7	Summer	95	EtOH/SB	08/19/92	U	5.7%EtOH/SB	2.562	2.793	2.895	1.760	0.855	7.089
7	Summer	95	EtOH/SB	11/04/92	U	5.7%EtOH/SB	0.803	1.002	0.716	0.818	0.397	1.547
7	Winter	50	LowRVPBase	08/22/91	X	LowRVPWinterBase	0.766	2.354	0.097	0.841	0.042	1.730
7	Winter	50	LowRVPBase	12/06/91	X	LowRVPWinterBase	0.637	2.176	0.133	0.430	0.075	0.229
7	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	3.331	6.059	2.859	2.165	0.644	18.579
7	Winter	50	NewStockBase	10/29/92	Y	NewStockWinterBase	0.958	1.813	0.726	0.754	0.249	2.011
7	Winter	50	MTBE	08/19/91	P	15%MTBE	0.392	1.033	0.150	0.347	0.022	0.633
7	Winter	50	MTBE	12/04/91	P	15%MTBE	0.633	1.967	0.179	0.448	0.079	0.602
7	Winter	50	ETBE	08/29/91	R	17.2%ETBE	0.406	1.090	0.181	0.291	0.055	0.613
7	Winter	50	EtOH	08/27/91	T	7.75%EtOH	0.475	1.544	0.191	0.187	0.049	1.102
7	Winter	50	EtOH/SB	09/13/91	V	7.75%EtOH/SB	0.524	1.501	0 185	0.410	0.076	0.778
7	Winter	75	Base	02/05/92	N	WinterBase	0.431	1.165	0.134	0.439	0.117	0.400
7	Winter	75	MTBE	01/05/92	P	15%MTBE	0.505	0.917	0.206	0.758	0.087	0.556
7	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.431	0.962	0.239	0.394	0.065	0.648
7	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.717	1.108	0.191	1.418	0.110	0.502
7	Winter	75	EtOH/SB	01/14/92	V	7.75%EtOH/SB	0.876	1.405	0.187	1.780	0.147	0.484
8	Summer	75	Base	01/13/92	M	SummerBase	0.320	0.558	0.248	0.276	0.060	1.692
8	Summer	75	MTBE	02/10/92	O	11%MTBE	0.254	0.458	0.195	0.211	0.058	0 565
8	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.494	0.842	0.375	0.455	0.080	2.020
8	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.371	0.737	0.251	0.320	0.061	0.775
8	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	0.327	0.690	0.214	0.266	0.070	0.664
8	Summer	95	Base	05/19/92	M	SummerBase	0.550	0.928	0.325	0.688	0.077	1.741
8	Summer	95	MTBE	07/20/92	O	11%MTBE	0.419	0.724	0.216	0.572	0.064	1.142
8	Summer	95	ETBE	06/17/92	Q	12.8%ETBE	0.338	0.567	0.232	0.365	0.072	1.027
8	Summer	95	EtOH	06/01/92	S	5.7%EtOH	0.449	0.821	0.261	0.522	0.069	1 108
8	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	0.547	1.005	0.280	0.806	0.077	1.136
8	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.317	0.997	0.122	0.176	0.053	0.749
8	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	0.395	1.148	0.182	0.228	0.058	1.886
8	Winter	50	MTBE	08/16/91	P	15%MTBE	0.591	2.233	0.131	0.195	0.055	1.030
8	Winter	50	MTBE	12/04/91	P	15%MTBE	0.357	1.101	0.126	0.216	0.052	0.565
8	Winter	50	ETBE	08/21/91	R	17.2%ETBE	0.340	1.091	0.127	0.157	0.048	0.767
8	Winter	50	EtOH	09/17/91	T	7.75%EtOH	0.266	0.778	0.109	0.167	0.053	0.963
8	Winter	50	EtOH/SB	08/22/91	V	7.75%EtOH/SB	0.334	0.866	0.183	0.207	0.126	0.897
8	Winter	75	Base	02/05/92	N	WinterBase	0.310	0.579	0.222	0.272	0.068	0.677
8	Winter	75	MTBE	12/12/91	P	15%MTBE	0.248	0.461	0.172	0.232	0.072	1.334
8	Winter	75	ETBE	01/28/92	R	17.2%ETBE	0.375	0.676	0.279	0.328	0.073	1.460

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
8	Winter	75	EtOH	01/08/92	T	7.75%EtOH	0.584	0.601	0.569	0.601	0.072	1.303
8	Winter	75	EtOH/SB	01/21/92	V	7.75%EtOH/SB	0.453	0.725	0.353	0.437	0.077	1.575
8	Winter	75	EtOH/SB	08/04/92	V	7.75%EtOH/SB	0.334	0.694	0.212	0.290	0.078	1.705
9	Summer	75	Base	02/05/92	M	SummerBase	0.360	0.983	0.106	0.369	0.117	0.539
9	Summer	75	MTBE	02/27/92	O	11%MTBE	0.387	0.986	0.144	0.393	0.111	0.792
9	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	0.350	0.875	0.105	0.416	0.103	1.323
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	0.393	0.880	0.148	0.486	0.137	1.531
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.327	0.816	0.103	0.381	0.109	0.775
9	Summer	95	Base	04/29/92	M	SummerBase	0.425	0.970	0.187	0.463	0.200	1.324
9	Summer	95	MTBE	07/13/92	O	11%MTBE	0.406	1.009	0.114	0.502	0.327	1.974
9	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.354	0.923	0.104	0.399	0.249	1.694
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	0.385	0.876	0.139	0.481	0.305	1.566
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	0.490	1.027	0.202	0.628	0.406	2.069
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	0.392	1.340	0.085	0.262	0.084	0.797
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	0.360	1.161	0.075	0.299	0.113	0.808
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	0.553	1.809	0.147	0.373	0.123	1.478
9	Winter	50	MTBE	09/06/91	P	15%MTBE	0.399	1.446	0.052	0.244	0.082	1.308
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	0.381	1.382	0.049	0.232	0.079	0.874
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	0.416	1.417	0.072	0.292	0.113	1.232
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	0.378	1.300	0.098	0.198	0.101	1.342
9	Winter	75	Base	03/03/92	N	WinterBase	0.569	1.229	0.243	0.686	0.183	1.119
9	Winter	75	MTBE	11/27/91	P	15%MTBE	0.357	0.874	0.097	0.460	0.270	1.013
9	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	0.111	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	0.350	0.832	0.113	0.433	0.140	0.780
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	0.433	0.992	0.194	0.462	0.120	1.664
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	0.461	0.872	0.223	0.600	0.297	1.271
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	0.390	0.960	0.154	0.406	0.224	1.770
10	Summer	75	Base	01/13/92	M	SummerBase	1.583	2.779	1.168	1.460	2.311	5.384
10	Summer	75	MTBE	02/10/92	O	11%MTBE	1.554	2.545	1.127	1.608	0.697	2.431
10	Summer	75	MTBE	07/23/92	O	11%MTBE	.	.	.	.	.	2.901
10	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	1.583	2.496	1.202	1.609	0.721	2.990
10	Summer	75	EtOH	01/22/92	S	5.7%EtOH	1.720	2.907	1.252	1.710	0.957	6.441
10	Summer	75	EtOH	07/23/92	S	5.7%EtOH	.	.	.	.	.	2.685
10	Summer	75	EtOH/SB	02/04/92	U	5.7%EtOH/SB	1.811	3.203	1.248	1.824	0.584	3.573
10	Summer	75	EtOH/SB	07/01/92	U	5.7%EtOH/SB	.	.	.	.	0.842	3.561
10	Summer	95	Base	05/13/92	M	SummerBase	1.766	2.920	1.162	2.038	1.306	4.172
10	Summer	95	MTBE	07/28/92	O	11%MTBE	1.856	2.894	1.452	1.837	1.230	3.457

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
10	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	2.076	2.824	1.432	2.728	0.977	4.286
10	Summer	95	EtOH	05/22/92	S	5.7%EtOH	1.883	3.156	1.301	2.020	1.017	6.680
10	Summer	95	EtOH/SB	08/20/92	U	5.7%EtOH/SB	1.689	2.563	1.249	1.860	0.832	2.833
10	Winter	50	LowRVPBase	09/18/91	X	LowRVPWinterBase	1.804	4.020	1.120	1.438	0.688	6.732
10	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	1.803	4.088	1.037	1.525	0.802	4.440
10	Winter	50	MTBE	09/05/91	P	15%MTBE	1.549	2.619	1.113	1.493	0.723	4.328
10	Winter	50	ETBE	09/16/91	R	17.2%ETBE	1.612	2.933	1.130	1.436	0.741	8.060
10	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1.778	3.604	1.122	1.563	0.770	6.088
10	Winter	50	EtOH/SB	09/23/91	V	7.75%EtOH/SB	1.760	3.525	1.139	1.538	0.723	10.104
10	Winter	75	Base	03/12/92	N	WinterBase	2.018	3.566	1.417	1.977	0.875	3.131
10	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	0.761	.
10	Winter	75	MTBE	12/03/91	P	15%MTBE	1.764	2.984	1.291	1.733	0.808	3.557
10	Winter	75	ETBE	01/24/92	R	17.2%ETBE	1.679	2.607	1.275	1.741	0.810	6.747
10	Winter	75	EtOH	01/09/92	T	7.75%EtOH	1.572	2.687	1.106	1.609	0.822	5.647
10	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	1.874	3.603	1.136	1.967	0.899	6.612
11	Summer	75	Base	02/17/92	M	SummerBase	0.818	1.439	0.403	1.138	0.175	3.306
11	Summer	75	MTBE	02/28/92	O	11%MTBE	0.955	1.568	0.613	1.139	0.221	2.288
11	Summer	75	ETBE	02/25/92	Q	12.8%ETBE	0.708	1.078	0.444	0.927	0.157	1.594
11	Summer	75	EtOH	03/13/92	S	5.7%EtOH	0.810	1.516	0.439	0.977	0.181	2.086
11	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.662	1.162	0.382	0.813	0.157	1.353
11	Summer	95	Base	05/20/92	M	SummerBase	0.901	1.381	0.570	1.162	0.200	2.532
11	Summer	95	MTBE	07/22/92	O	11%MTBE	0.814	1.484	0.530	0.850	0.172	1.691
11	Summer	95	ETBE	06/18/92	Q	12.8%ETBE	0.784	1.255	0.518	0.932	0.186	2.020
11	Summer	95	EtOH	06/03/92	S	5.7%EtOH	0.814	1.347	0.501	1.003	0.176	1.990
11	Summer	95	EtOH/SB	07/06/92	U	5.7%EtOH/SB	0.906	1.356	0.596	1.154	0.175	2.519
11	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	1.191	3.892	0.379	0.705	0.155	1.593
11	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	0.840	1.942	0.364	0.907	0.134	1.086
11	Winter	50	MTBE	09/13/91	P	15%MTBE	1.547	5.526	0.433	0.771	0.141	1.543
11	Winter	50	ETBE	08/28/91	R	17.2%ETBE	0.662	1.459	0.348	0.626	0.134	1.322
11	Winter	50	EtOH	08/30/91	T	7.75%EtOH	0.634	1.377	0.328	0.624	0.126	1.519
11	Winter	50	EtOH/SB	08/21/91	V	7.75%EtOH/SB	0.709	1.268	0.323	0.989	0.123	1.511
11	Winter	75	Base	03/10/92	N	WinterBase	0.997	1.802	0.651	1.047	0.194	1.914
11	Winter	75	MTBE	03/26/92	P	15%MTBE	1.006	1.761	0.520	1.352	0.184	1.628
11	Winter	75	ETBE	01/28/92	R	17.2%ETBE	0.823	1.183	0.525	1.113	0.213	3.549
11	Winter	75	ETBE	07/27/92	R	17.2%ETBE	.	.	.	.	0.203	1.474
11	Winter	75	EtOH	03/06/92	T	7.75%EtOH	0.747	1.165	0.468	0.957	0.189	1.574
11	Winter	75	EtOH/SB	03/25/92	V	7.75%EtOH/SB	0.896	1.532	0.444	1.267	0.204	1.452

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
11	Winter	75	EtOH/SB	08/12/92	V	7.75%EtOH/SB	0.854	1.314	0.542	1.103	0.175	2.312
12	Summer	75	Base	02/26/92	M	SummerBase	1.725	2.742	1.468	1.442	0.163	8.620
12	Summer	75	Base	05/06/92	M	SummerBase	.	.	.	.	0.065	7.916
12	Summer	75	MTBE	02/27/92	O	11%MTBE	2.431	3.387	2.280	1.996	0.221	12.932
12	Summer	75	ETBE	03/23/92	Q	12.8%ETBE	1.777	2.436	1.502	1.799	0.140	12.028
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	2.279	3.059	1.983	2.250	0.203	13.171
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	2.163	3.138	1.976	1.781	0.286	11.543
12	Summer	95	Base	04/27/92	M	SummerBase	1.264	2.334	0.831	1.274	0.089	6.317
12	Summer	95	MTBE	07/14/92	O	11%MTBE	1.670	2.078	1.631	1.438	0.102	7.251
12	Summer	95	ETBE	05/15/92	Q	12.8%ETBE	1.309	1.786	1.197	1.162	0.113	7.460
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	1.326	1.585	1.244	1.286	0.118	6.536
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	1.790	2.472	1.624	1.590	0.135	8.196
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	3.590	5.893	3.601	2.892	0.474	18.048
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	4.477	12.199	2.557	2.322	0.848	7.935
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	2.527	7.500	1.137	1.398	0.080	8.772
12	Winter	50	MTBE	09/19/91	P	15%MTBE	3.537	8.042	2.388	2.144	0.604	9.819
12	Winter	50	MTBE	12/21/91	P	15%MTBE	4.525	11.453	2.927	2.331	0.660	7.630
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	3.167	6.074	2.288	2.453	0.460	15.926
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	3.310	7.618	2.164	2.084	0.616	10.031
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	3.473	7.834	2.305	2.265	0.651	11.218
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	4.049	11.493	2.169	1.963	0.609	7.063
12	Winter	75	Base	03/09/92	N	WinterBase	2.314	3.275	2.125	1.945	0.131	6.855
12	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	0.591	8.987
12	Winter	75	MTBE	03/25/92	P	15%MTBE	2.011	2.424	1.861	1.986	0.160	12.548
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	2.866	2.878	3.354	1.940	0.374	13.979
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	1.830	2.563	1.658	1.600	0.252	13.447
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	2.130	2.675	2.032	1.901	0.339	10.465
13	Summer	75	Base	03/11/92	M	SummerBase	0.311	1.149	0.068	0.138	0.054	0.448
13	Summer	75	MTBE	02/27/92	O	11%MTBE	0.302	1.087	0.088	0.112	0.055	0.294
13	Summer	75	ETBE	02/21/92	Q	12.8%ETBE	0.247	0.916	0.044	0.128	0.056	0.340
13	Summer	75	EtOH	03/09/92	S	5.7%EtOH	0.234	0.920	0.036	0.091	0.052	0.324
13	Summer	75	EtOH/SB	03/17/92	U	5.7%EtOH/SB	0.320	1.229	0.067	0.112	0.062	0.457
13	Summer	95	Base	05/11/92	M	SummerBase	0.255	0.926	0.059	0.120	0.073	0.376
13	Summer	95	MTBE	07/16/92	O	11%MTBE	0.241	0.761	0.082	0.149	0.044	0.455
13	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.257	0.907	0.056	0.146	0.064	1.386
13	Summer	95	EtOH	06/02/92	S	5.7%EtOH	0.247	0.864	0.057	0.138	0.053	0.341
13	Summer	95	EtOH/SB	08/21/92	U	5.7%EtOH/SB	0.243	0.901	0.044	0.120	0.028	1.495

Total Exhaust HC Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
13	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.567	2.498	0.055	0.081	0.046	0.295
13	Winter	50	NewStockBase	08/25/92	Y	NewStockWinterBase	0.619	2.712	0.046	0.121	0.058	0.383
13	Winter	50	MTBE	08/28/91	P	15%MTBE	0.500	2.239	0.023	0.068	0.028	0.284
13	Winter	50	ETBE	09/20/91	R	17.2%ETBE	0.538	2.233	0.065	0.125	0.055	0.555
13	Winter	50	EtOH	09/10/91	T	7.75%EtOH	0.480	2.026	0.063	0.082	0.045	0.284
13	Winter	50	EtOH/SB	09/17/91	V	7.75%EtOH/SB	0.468	2.000	0.038	0.104	0.047	0.271
13	Winter	75	Base	03/02/92	N	WinterBase	0.245	0.937	0.044	0.099	0.062	0.877
13	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	.	0.600
13	Winter	75	MTBE	01/17/92	P	15%MTBE	0.234	0.828	0.030	0.169	0.065	0.328
13	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	0.415
13	Winter	75	ETBE	02/25/92	R	17.2%ETBE	0.283	0.964	0.057	0.198	0.053	0.338
13	Winter	75	EtOH	03/03/92	T	7.75%EtOH	0.266	1.058	0.034	0.105	0.031	0.187
13	Winter	75	EtOH/SB	03/05/92	V	7.75%EtOH/SB	0.248	0.953	0.049	0.091	0.036	0.353

APPENDIX D
EXHAUST CO DATA

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
1	Summer	75	Base	01/21/92	M	SummerBase	1.756	6.761	0.072	1.156	0.764	10.743
1	Summer	75	MTBE	02/11/92	O	11%MTBE	1.111	3.693	0.076	1.103	0.633	5.504
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	1.242	4.553	0.049	0.997	1.195	6.939
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1.676	5.855	0.106	1.485	0.465	9.347
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	.	.	.	.	0.686	4.594
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1.648	5.580	0.093	1.623	1.002	8.185
1	Summer	95	Base	05/04/92	M	SummerBase	2.878	5.104	0.125	6.390	4.378	12.618
1	Summer	95	MTBE	07/10/92	O	11%MTBE	2.625	3.803	0.062	6.561	5.181	19.641
1	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	3.001	5.692	0.093	6.463	3.785	12.811
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	2.711	3.691	0.152	6.794	0.901	22.838
1	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	0.710	.
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	3.327	4.327	0.119	8.603	2.666	25.317
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	.	.	.	.	.	.
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	3.721	12.956	0.076	3.625	0.764	10.788
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	3.470	11.330	0.132	3.830	0.944	14.195
1	Winter	50	MTBE	09/09/91	P	15%MTBE	4.005	14.260	0.077	3.666	0.788	4.862
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	4.770	17.130	0.111	4.238	0.844	4.985
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	3.882	13.362	0.107	3.821	0.586	3.574
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	3.375	11.041	0.089	3.786	0.814	2.717
1	Winter	75	Base	02/25/92	N	WinterBase	3.134	8.192	0.133	4.981	0.783	2.287
1	Winter	75	Base	08/10/92	N	WinterBase	1.391	4.425	0.091	1.539	0.786	12.030
1	Winter	75	MTBE	01/17/92	P	15%MTBE	1.604	5.221	0.130	1.657	0.992	9.715
1	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	6.756
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	1.425	4.446	0.066	1.707	1.152	12.678
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	1.902	5.911	0.067	2.343	2.193	13.245
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	2.680	6.330	0.033	4.991	0.774	6.820
2	Summer	75	Base	02/07/92	M	SummerBase	23.994	46.888	16.652	22.466	15.243	30.491
2	Summer	75	MTBE	02/11/92	O	11%MTBE	18.241	39.839	10.910	15.756	7.846	21.242
2	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	17.906	36.240	10.272	18.449	12.115	21.772
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	22.218	41.013	13.974	23.599	6.675	34.969
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	20.510	37.315	13.572	20.878	4.888	25.647
2	Summer	95	Base	05/06/92	M	SummerBase	17.455	40.400	10.342	13.578	6.326	32.162
2	Summer	95	MTBE	07/11/92	O	11%MTBE	17.230	27.629	11.039	21.073	9.364	27.200
2	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	13.891	30.170	8.099	12.526	8.584	7.687
2	Summer	95	ETBE	10/08/92	Q	12.8%ETBE	.	.	.	.	.	26.790
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	15.945	30.977	10.130	15.585	6.249	8.843
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	.	.	.	.	.	41.445

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	15.402	38.924	8.206	11.216	2.181	19.893
2	Summer	95	EtOH/SB	09/10/92	U	5.7%EtOH/SB	.	.	.	.	8.672	.
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	31.517	84.410	14.780	23.117	12.171	34.317
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	26.086	73.938	10.999	18.466	7.645	26.662
2	Winter	50	MTBE	08/22/91	P	15%MTBE	22.962	71.063	8.488	13.978	7.738	17.169
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	22.311	62.637	10.920	13.372	11.850	22.611
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	25.991	67.161	13.056	19.347	12.350	22.378
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	24.528	68.583	11.444	15.969	7.959	20.879
2	Winter	75	Base	03/05/92	N	WinterBase	19.737	42.948	12.917	15.085	5.553	32.248
2	Winter	75	MTBE	02/21/92	P	15%MTBE	18.393	35.826	12.453	16.437	5.142	15.408
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	20.237	46.026	11.779	16.699	9.032	25.089
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	18.982	39.153	12.920	15.179	13.152	26.527
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	20.467	40.808	13.174	18.849	8.672	33.861
3	Summer	75	Base	02/26/92	M	SummerBase	25.376	34.400	24.359	20.486	11.896	39 848
3	Summer	75	MTBE	02/27/92	O	11%MTBE	11.951	22.300	10.060	7.726	6.113	22 801
3	Summer	75	MTBE	08/05/92	O	11%MTBE	16.199	36.580	10.903	10.846	5.611	21.471
3	Summer	75	ETBE	03/06/92	Q	12.8%ETBE	17.076	21.640	16.853	14.051	4.660	22.084
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	16.295	38.559	10.157	11.119	7.472	22.378
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	17.573	33.498	14.535	11.300	4.563	20.919
3	Summer	95	Base	07/23/92	M	SummerBase	29.901	40.899	26.535	27.948	44.648	61.000
3	Summer	95	MTBE	07/15/92	O	11%MTBE	20.569	31.062	18.078	17.367	19.858	28.488
3	Summer	95	ETBE	07/21/92	Q	12.8%ETBE	15.819	25.585	13.790	12.274	9.445	38.456
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	17.129	24.942	15.310	14.681	24.668	41.776
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	23.240	51.480	16.853	14.068	8.575	28.736
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	22.115	62.082	11.708	11.706	5.331	25.969
3	Winter	50	MTBE	09/24/91	P	15%MTBE	16.172	44.953	8.413	9.138	4.545	22.772
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	18.665	51.234	10.824	8.970	4.509	25.503
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	12.887	39.438	6.357	5.245	3.454	19.904
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	16.480	46.158	8.752	8.743	4.745	29.607
3	Winter	75	Base	03/17/92	N	WinterBase	31.306	54.680	25.962	23.785	15.398	36.317
3	Winter	75	Base	10/12/92	N	WinterBase	.	.	.	.	.	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	13.331	17.288	12.435	12.040	5.463	15.749
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	16.964	27.121	14.449	14.050	15.639	23.266
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	14.730	39.369	7.786	9.357	5.027	14.733
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	14.884	35.301	9.094	10.439	5.493	15.664
4	Summer	75	Base	01/13/92	M	SummerBase	3.386	6.634	2.628	2.367	1.110	6.342
4	Summer	75	MTBE	02/10/92	O	11%MTBE	3.089	7.218	2.008	2.010	1.421	5.049

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
4	Summer	75	MTBE	07/29/92	O	11%MTBE	3.258	6.239	2.224	2.960	1.107	7.941
4	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	3.890	9.027	2.247	3.109	1.036	6.217
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	4.072	7.963	2.209	4.650	1.412	7.110
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	3.697	6.889	2.017	4.457	1.317	6.196
4	Summer	95	Base	05/22/92	M	SummerBase	3.434	5.542	3.224	2.238	1.639	9.439
4	Summer	95	Base	10/20/92	M	SummerBase	.	.	.	.	.	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	3.581	5.710	3.135	2.815	1.748	7.431
4	Summer	95	ETBE	06/04/92	Q	12.8%ETBE	2.538	4.829	2.047	1.730	1.567	4.194
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	3.399	5.817	2.346	3.561	1.318	14.108
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	7.064
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	3.631	5.836	2.896	3.357	1.332	5.514
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	5.022	15.586	1.818	3.068	1.427	4.778
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	5.518	14.501	2.526	4.385	1.230	7.421
4	Winter	50	MTBE	08/21/91	P	15%MTBE	5.271	17.907	1.900	2.067	1.087	3.122
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	4.247	14.121	1.351	2.241	0.733	2.822
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	5.838	13.800	3.730	3.802	1.332	6.486
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	3.056	7.907	1.688	1.968	0.797	3.807
4	Winter	75	Base	02/04/92	N	WinterBase	4 112	8.270	2.366	4.259	1.934	7.196
4	Winter	75	MTBE	01/21/92	P	15%MTBE	3.217	6.120	2.578	2.238	1.537	5.002
4	Winter	75	MTBE	08/07/92	P	15%MTBE	3.198	5.303	2.701	2.544	1.225	5.680
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	2.758	5.193	1.994	2.364	1.066	4.810
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	3.857	6.045	3.010	3.803	1.827	8.770
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	3.898	6.146	2.978	3.936	1.327	6.551
5	Summer	75	Base	01/20/92	M	SummerBase	4.548	8.960	3.336	3.513	1.378	12.251
5	Summer	75	MTBE	02/10/92	O	11%MTBE	4.285	9.230	2.253	4.382	0.474	5.860
5	Summer	75	ETBE	02/17/92	Q	12.8%ETBE	3.007	6.672	2.201	1.763	1.006	10.261
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	2.660	6.073	1.799	1.714	1.487	8.213
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	4.047	8.504	2.607	3.406	0.633	6.285
5	Summer	95	Base	05/20/92	M	SummerBase	3.400	8.302	1.890	2.552	0.471	9.127
5	Summer	95	MTBE	07/08/92	O	11%MTBE	2.980	7.603	1.699	1.913	1.171	6.563
5	Summer	95	ETBE	06/05/92	Q	12.8%ETBE	2.376	6.335	1.095	1.805	0.423	6.082
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	2.742	6.254	1.714	2.040	0.536	12.785
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	12.793
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	2.357	6.039	1.190	1.781	0.517	9.112
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	7.582	27.449	2.231	2.716	0.315	13.882
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	6.176	22.047	1.832	2.394	0.846	23.932
5	Winter	50	MTBE	08/28/91	P	15%MTBE	5.525	21.527	1.271	1.457	0.298	11.308

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	6.734	22.871	2.271	2.972	1.002	11.625
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	5.876	22.522	1.384	1.804	0.229	10.235
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	5.759	21.136	1.398	2.396	0.410	8.200
5	Winter	75	Base	02/04/92	N	WinterBase	2.562	6.323	1.458	1.803	0.294	8.201
5	Winter	75	MTBE	01/05/92	P	15%MTBE	4.652	10.240	3.401	2.804	1.128	8.175
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	3.230	8.464	1.477	2.590	0.412	8.056
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	3.643	8.431	2.163	2.817	1.474	9.747
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	2.654	6.865	1.338	1.963	0.805	10.795
6	Summer	75	Base	02/04/92	M	SummerBase	4.445	8.331	2.865	4.487	1.974	11.205
6	Summer	75	MTBE	02/11/92	O	11%MTBE	5.565	10.888	3.424	5.586	1.526	9.067
6	Summer	75	ETBE	02/19/92	Q	12.8%ETBE	4.847	9.578	2.690	5.345	2.335	12.257
6	Summer	75	EtOH	01/29/92	S	5.7%EtOH	4.671	9.350	2.724	4.806	1.569	11.155
6	Summer	75	EtOH/SB	02/07/92	U	5.7%EtOH/SB	4.664	11.435	2.147	4.314	1.989	16.955
6	Summer	95	Base	05/05/92	M	SummerBase	3.366	6.382	2.101	3.480	1 326	17.263
6	Summer	95	MTBE	07/24/92	O	11%MTBE	3.474	6.694	1.980	3.858	2.060	17.319
6	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	3.755	7.947	2.094	3.725	1.505	8.776
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	2.891	6.513	1.646	2.500	1 882	13 401
6	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	4.201	6.798	2.354	5.720	2 628	17.680
6	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	4.921	14.157	1.816	3.796	2.014	16.481
6	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	5.501	15.265	2.480	3.823	2.983	24.024
6	Winter	50	MTBE	09/19/91	P	15%MTBE	5.550	15.939	1.933	4.506	1.991	10.617
6	Winter	50	ETBE	09/16/91	R	17.2%ETBE	5.728	16.177	2.432	4.070	1.934	12.562
6	Winter	50	EtOH	09/10/91	T	7.75%EtOH	5.193	12.381	2.736	4.409	2.143	12.859
6	Winter	50	EtOH/SB	09/05/91	V	7.75%EtOH/SB	5.677	13.882	3.154	4.249	2.454	22.656
6	Winter	75	Base	03/18/92	N	WinterBase	4.857	9.349	3.002	4.965	2.611	12.209
6	Winter	75	MTBE	12/02/91	P	15%MTBE	3.286	7.176	1.389	3.925	1.984	21.364
6	Winter	75	ETBE	02/24/92	R	17.2%ETBE	5.202	10.185	3.103	5.407	1.141	7.708
6	Winter	75	EtOH	01/31/92	T	7.75%EtOH	5.149	10.365	2.911	5.423	2.065	16.653
6	Winter	75	EtOH/SB	02/17/92	V	7.75%EtOH/SB	6.959	13.527	3.480	8.553	2.295	21.203
7	Summer	75	Base	01/17/92	M	SummerBase	7.015	18.899	3.926	3.876	0.243	16.418
7	Summer	75	MTBE	02/17/92	O	11%MTBE	8.769	21.648	5.557	5.128	0.476	16.888
7	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	7.926	22.422	3.280	5.777	0.400	14.285
7	Summer	75	EtOH	01/30/92	S	5.7%EtOH	5.458	14.382	2.516	4.300	0.184	7.307
7	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	10.192	23.807	5.135	9.481	0.729	15.499
7	Summer	95	Base	09/10/92	M	SummerBase	22.413	21.238	25.718	17.053	7.791	89.145
7	Summer	95	MTBE	09/01/92	O	11%MTBE	26.344	18.943	31.624	21.974	22.397	86.755
7	Summer	95	ETBE	09/04/92	Q	12.8%ETBE	23.360	19.995	27.679	17.732	4.110	67.816

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
7	Summer	95	EtOH	08/27/92	S	5.7%EtOH	25.210	22.815	28.389	21.006	6.664	78.055
7	Summer	95	EtOH/SB	08/19/92	U	5.7%EtOH/SB	35.321	32.735	42.418	23.852	14.340	106.166
7	Summer	95	EtOH/SB	11/04/92	U	5.7%EtOH/SB	9.266	11.318	8.035	10.040	6.071	20.519
7	Winter	50	LowRVPBase	08/22/91	X	LowRVPWinterBase	7.879	22.196	3.830	4.728	0.359	37.637
7	Winter	50	LowRVPBase	12/06/91	X	LowRVPWinterBase	7.664	23.594	3.251	3.981	0.609	14.924
7	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	39.123	45.079	41.096	30.887	10.482	181.514
7	Winter	50	NewStockBase	10/29/92	Y	NewStockWinterBase	7.244	13.118	5.490	6.137	2.823	14.555
7	Winter	50	MTBE	08/19/91	P	15%MTBE	3.581	8.458	2.315	2.288	0.145	7.983
7	Winter	50	MTBE	12/04/91	P	15%MTBE	8.366	26.746	3.693	3.345	0.576	11.920
7	Winter	50	ETBE	08/29/91	R	17.2%ETBE	3.821	12.648	1.647	1.267	0.207	24.907
7	Winter	50	EtOH	08/27/91	T	7.75%EtOH	4.524	15.572	1.530	1.856	0.542	12.874
7	Winter	50	EtOH/SB	09/13/91	V	7.75%EtOH/SB	4.188	12.541	2.062	1.911	0.498	28.341
7	Winter	75	Base	02/05/92	N	WinterBase	8.674	17.054	5.113	9.077	0.752	16.079
7	Winter	75	MTBE	01/05/92	P	15%MTBE	6.581	14.276	4.170	5.332	0.937	10.458
7	Winter	75	ETBE	01/24/92	R	17.2%ETBE	5.540	11.873	3.269	5.058	0.705	9.922
7	Winter	75	EtOH	01/09/92	T	7.75%EtOH	7.705	14.857	4.357	8.643	0.358	11.262
7	Winter	75	EtOH/SB	01/14/92	V	7.75%EtOH/SB	12.263	23.526	6.564	14.525	0.414	17.069
8	Summer	75	Base	01/13/92	M	SummerBase	3.208	5.618	2.623	2.497	0.315	18.219
8	Summer	75	MTBE	02/10/92	O	11%MTBE	3.950	6.502	3.698	2.501	0.412	6.686
8	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	5.167	8.761	3.988	4.682	1.075	20.109
8	Summer	75	EtOH	01/29/92	S	5.7%EtOH	5.225	8.288	4.050	5.127	0.359	6.601
8	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	5.379	8.919	4.352	4.644	1.166	11.241
8	Summer	95	Base	05/19/92	M	SummerBase	5.869	14.975	2.417	5.496	0.564	15.131
8	Summer	95	MTBE	07/20/92	O	11%MTBE	4.938	11.752	2.087	5.179	0.261	13.942
8	Summer	95	ETBE	06/17/92	Q	12.8%ETBE	2.709	4.484	1.798	3.087	0.360	9.829
8	Summer	95	EtOH	06/01/92	S	5.7%EtOH	4.226	10.862	1.703	3.974	0.406	12.087
8	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	5.264	14.360	1.620	5.291	0.315	7.942
8	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	4.115	14.108	1.367	1.769	0.257	9.372
8	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	4.741	14.237	2.249	2.287	0.348	16.628
8	Winter	50	MTBE	08/16/91	P	15%MTBE	4.768	14.307	2.134	2.546	0.323	12.683
8	Winter	50	MTBE	12/04/91	P	15%MTBE	5.983	16.546	2.749	4.117	0.540	10.781
8	Winter	50	ETBE	08/21/91	R	17.2%ETBE	4.298	13.437	1.858	2.023	0.424	9.644
8	Winter	50	EtOH	09/17/91	T	7.75%EtOH	3.148	10.256	1.067	1.719	0.312	14.748
8	Winter	50	EtOH/SB	08/22/91	V	7.75%EtOH/SB	3.728	11.417	1.587	1.962	0.398	7.656
8	Winter	75	Base	02/05/92	N	WinterBase	4.456	7.488	2.955	5.008	0.523	10.431
8	Winter	75	MTBE	12/12/91	P	15%MTBE	3.518	4.923	2.753	3.900	1.200	18.453
8	Winter	75	ETBE	01/28/92	R	17.2%ETBE	5.855	10.192	3.728	6.595	0.958	26.393

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
8	Winter	75	EtOH	01/08/92	T	7.75%EtOH	4.921	8.417	3.540	4.900	0.479	30.415
8	Winter	75	EtOH/SB	01/21/92	V	7.75%EtOH/SB	8.702	12.043	6.434	10.461	0.490	35.419
8	Winter	75	EtOH/SB	08/04/92	V	7.75%EtOH/SB	3.453	9.202	1.550	2.697	0.508	16.868
9	Summer	75	Base	02/05/92	M	SummerBase	8.249	13.353	3.683	12.994	2.623	18.025
9	Summer	75	MTBE	02/27/92	O	11%MTBE	8.703	12.973	5.690	11.165	3.675	21.717
9	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	10.874	15.067	6.773	15.449	4.275	28.392
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	10.358	13.599	6.075	15.993	5.336	24.535
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	7.009	8.374	3.038	13.485	3.081	23.011
9	Summer	95	Base	04/29/92	M	SummerBase	10.126	14.713	6.278	13.926	7.811	29.668
9	Summer	95	MTBE	07/13/92	O	11%MTBE	8.661	12.613	3.875	14.710	12.456	37.537
9	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	7.494	11.637	4.231	10.538	5.463	34.660
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	7.807	10.136	4.541	12.210	9.042	31.977
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	10.922	12.590	6.260	18.464	13.868	30.473
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	13.614	40.131	2.377	14.905	4.406	36.631
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	10.828	29.406	3.675	10.301	4.081	18.391
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	14.924	40.104	6.673	11.555	4.816	23.902
9	Winter	50	MTBE	09/06/91	P	15%MTBE	14.391	43.324	3.240	13.617	3.922	33.592
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	12.991	38.036	3.607	11.778	3.753	33.127
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	14.129	39.742	4.306	13.306	6.123	51.795
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	9.781	30.896	2.595	7.420	2.759	41.610
9	Winter	75	Base	03/03/92	N	WinterBase	15.439	21.460	9.108	22.828	5.112	27.484
9	Winter	75	MTBE	11/27/91	P	15%MTBE	11.140	16.821	5.810	16.931	10.646	30.523
9	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	3.184	
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	8.500	12.358	5.156	11.891	4.123	23.410
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	12.183	17.346	9.144	14.017	5.419	27.778
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	12.850	16.417	9.452	16.577	10.742	33.136
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	8.164	13.354	4.772	10.660	9.171	25.918
10	Summer	75	Base	01/13/92	M	SummerBase	13.551	35.671	3.351	16.028	10.779	46.705
10	Summer	75	MTBE	02/10/92	O	11%MTBE	7.572	19.292	1.161	10.783	3.901	9.405
10	Summer	75	MTBE	07/23/92	O	11%MTBE	.	.	.	.	.	18.180
10	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	9.525	21.098	3.734	11.704	5.039	16.162
10	Summer	75	EtOH	01/22/92	S	5.7%EtOH	15.103	38.045	4.265	18.271	16.050	56.672
10	Summer	75	EtOH	07/23/92	S	5.7%EtOH	.	.	.	.	.	22.582
10	Summer	75	EtOH/SB	02/04/92	U	5.7%EtOH/SB	13.016	32.735	4.165	14.826	5.548	26.668
10	Summer	75	EtOH/SB	07/01/92	U	5.7%EtOH/SB	.	.	.	.	6.903	17.247
10	Summer	95	Base	05/13/92	M	SummerBase	14.556	25.293	2.695	28.900	30.696	31.523
10	Summer	95	MTBE	07/28/92	O	11%MTBE	19.006	33.068	10.188	25.108	33.251	36.393

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
10	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	12.474	25.876	4.787	16.867	13.527	41.237
10	Summer	95	EtOH	05/22/92	S	5.7%EtOH	9.599	27.038	1.591	11.549	19.954	55.322
10	Summer	95	EtOH/SB	08/20/92	U	5.7%EtOH/SB	15.318	26.485	6.187	24.167	13.272	19.482
10	Winter	50	LowRVPBase	09/18/91	X	LowRVPWinterBase	12.816	50.283	1.016	6.741	2.920	17.411
10	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	17.029	56.784	3.367	12.791	12.454	36.378
10	Winter	50	MTBE	09/05/91	P	15%MTBE	8.745	33.878	1.155	4.140	2.672	19.839
10	Winter	50	ETBE	09/16/91	R	17.2%ETBE	10.947	40.541	1.898	5.657	2.869	27.489
10	Winter	50	EtOH	09/11/91	T	7.75%EtOH	11.794	44.341	1.600	6.413	3.953	24.841
10	Winter	50	EtOH/SB	09/23/91	V	7.75%EtOH/SB	13.013	45.673	2.257	8.614	3.042	29.976
10	Winter	75	Base	03/12/92	N	WinterBase	21.709	50.358	6.917	27.832	17.464	18.822
10	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	8.247	.
10	Winter	75	MTBE	12/03/91	P	15%MTBE	13.325	32.808	5.716	12.968	9.904	21.945
10	Winter	75	ETBE	01/24/92	R	17.2%ETBE	10.162	26.476	2.881	11.574	5.484	31.542
10	Winter	75	EtOH	01/09/92	T	7.75%EtOH	10.283	28.636	1.413	13.134	5.833	37.012
10	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	13.698	34.018	4.521	15.763	21.358	48.778
11	Summer	75	Base	02/17/92	M	SummerBase	10.720	20.929	4.439	14.973	2.775	32.798
11	Summer	75	MTBE	02/28/92	O	11%MTBE	13.789	21.207	9.160	16.949	3.623	33.130
11	Summer	75	ETBE	02/25/92	Q	12.8%ETBE	9.885	17.358	5.146	13.194	2.977	22.215
11	Summer	75	EtOH	03/13/92	S	5.7%EtOH	9.530	17.560	4.088	13.742	2.302	28.731
11	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	8.751	16.961	3.407	12.622	2.061	18.777
11	Summer	95	Base	05/20/92	M	SummerBase	12.586	19.003	7.165	17.970	2.620	33.469
11	Summer	95	MTBE	07/22/92	O	11%MTBE	12.084	19.535	6.802	16.496	2.244	30.029
11	Summer	95	ETBE	06/18/92	Q	12.8%ETBE	10.031	15.633	5.485	14.378	2.438	36.779
11	Summer	95	EtOH	06/03/92	S	5.7%EtOH	11.049	18.755	5.538	15.642	1.880	29.583
11	Summer	95	EtOH/SB	07/06/92	U	5.7%EtOH/SB	14.202	20.770	8.132	20.752	1.897	39.688
11	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	10.614	37.029	1.885	7.203	1.363	15.767
11	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	12.234	34.620	3.454	11.923	1.930	15.027
11	Winter	50	MTBE	09/13/91	P	15%MTBE	6.777	22.238	1.515	4.999	0.871	12.904
11	Winter	50	ETBE	08/28/91	R	17.2%ETBE	5.831	16.559	1.763	5.445	0.897	11.356
11	Winter	50	EtOH	08/30/91	T	7.75%EtOH	4.652	11.079	1.682	5.395	1.086	16.943
11	Winter	50	EtOH/SB	08/21/91	V	7.75%EtOH/SB	4.288	8.106	1.777	6.133	1.059	12.624
11	Winter	75	Base	03/10/92	N	WinterBase	11.674	21.563	6.395	14.228	2.281	25.266
11	Winter	75	MTBE	03/26/92	P	15%MTBE	9.146	17.123	6.336	8.427	2.559	25.701
11	Winter	75	ETBE	01/28/92	R	17.2%ETBE	8.553	13.125	4.174	13.312	1.610	24.410
11	Winter	75	ETBE	07/27/92	R	17.2%ETBE	.	.	.	.	3.496	21.221
11	Winter	75	EtOH	03/06/92	T	7.75%EtOH	9.348	16.283	4.832	12.632	2.416	20.617
11	Winter	75	EtOH/SB	03/25/92	V	7.75%EtOH/SB	10.721	22.770	4.517	13.353	2.995	20.357

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
11	Winter	75	EtOH/SB	08/12/92	V	7.75%EtOH/SB	11.788	22.050	5.508	16.027	2.488	26.331
12	Summer	75	Base	02/26/92	M	SummerBase	33.201	51.558	29.569	26.194	10.197	67 644
12	Summer	75	Base	05/06/92	M	SummerBase	.	.	.	.	3.563	39.308
12	Summer	75	MTBE	02/27/92	O	11%MTBE	34.603	48.275	32.642	27.987	10.789	83.855
12	Summer	75	ETBE	03/23/92	Q	12.8%ETBE	31.451	46.538	28.128	26.342	8.787	91.700
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	33.373	45.742	31.791	27.024	9.710	91.665
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	22.151	48.465	9.945	25.335	9.070	85.551
12	Summer	95	Base	04/27/92	M	SummerBase	18.471	28.841	14.427	18.289	3.809	50.381
12	Summer	95	MTBE	07/14/92	O	11%MTBE	21.533	28.803	21.066	16.930	5.871	41.383
12	Summer	95	ETBE	05/15/92	Q	12.8%ETBE	19.487	27.052	18.018	16.555	5.662	47.136
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	16.692	20.715	17.045	12.985	5.347	30.994
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	22.154	27.797	22.430	17.367	5.877	40.591
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	37.490	93.350	22.543	23.585	9 411	37.405
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	67.520	76.270	70.390	55.490	33 821	107.866
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	31.599	78 052	20.351	17.771	4 701	48 524
12	Winter	50	MTBE	09/19/91	P	15%MTBE	68.655	130.251	59.096	40.197	19.184	67.598
12	Winter	50	MTBE	12/21/91	P	15%MTBE	59.693	76.667	62.012	42.507	19.499	91.275
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	49.925	105.602	38.637	29.115	11.702	40.001
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	64.911	128.932	52.507	39.919	20.065	76 001
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	68.607	127.849	58.582	42.728	22.221	79.038
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	55.784	78.050	55.735	39.027	21.046	88.606
12	Winter	75	Base	03/09/92	N	WinterBase	33.683	49.408	32.280	24.456	8.828	44.842
12	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	4.543	47.524
12	Winter	75	MTBE	03/25/92	P	15%MTBE	26.940	42.626	24.445	19.799	7.886	51.569
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	31.439	43.324	31.966	21.482	11.493	73.930
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	28.128	42.257	26.331	20.858	10.359	79.726
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	33.401	47.951	33.005	23.162	9.414	67.275
13	Summer	75	Base	03/11/92	M	SummerBase	4.318	15.339	1.207	1.866	0.520	6.189
13	Summer	75	MTBE	02/27/92	O	11%MTBE	4.494	16.532	1.327	1.382	0.345	3.788
13	Summer	75	ETBE	02/21/92	Q	12.8%ETBE	3.924	14.983	0.801	1.480	0.442	4.333
13	Summer	75	EtOH	03/09/92	S	5.7%EtOH	2.763	10.494	0.659	0.895	0 448	3.543
13	Summer	75	EtOH/SB	03/17/92	U	5.7%EtOH/SB	3.933	14.615	1.097	1.232	0.487	5.029
13	Summer	95	Base	05/11/92	M	SummerBase	3.186	11.079	1.148	1.067	0.469	4.129
13	Summer	95	MTBE	07/16/92	O	11%MTBE	2.663	9.449	0.851	0.963	0.276	3.377
13	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	2.635	9.991	0.589	0.947	0.507	7.655
13	Summer	95	EtOH	06/02/92	S	5.7%EtOH	2.784	9.850	0.844	1.109	0.374	3.776
13	Summer	95	EtOH/SB	08/21/92	U	5.7%EtOH/SB	3.195	10.113	0.867	2.362	0.347	14.149

Total Exhaust CO Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
13	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	6.916	30.989	0.582	0.698	0.234	2.441
13	Winter	50	NewStockBase	08/25/92	Y	NewStockWinterBase	7.433	31.715	0.978	1.309	0.489	5.391
13	Winter	50	MTBE	08/28/91	P	15%MTBE	7.355	33.190	0.695	0.452	0.255	3.122
13	Winter	50	ETBE	09/20/91	R	17.2%ETBE	8.058	35.338	0.833	1.157	0.323	6.554
13	Winter	50	EtOH	09/10/91	T	7.75%EtOH	5.501	24.993	0.375	0.465	0.162	1.759
13	Winter	50	EtOH/SB	09/17/91	V	7.75%EtOH/SB	6.461	28.974	0.502	0.683	0.225	2.085
13	Winter	75	Base	03/02/92	N	WinterBase	3.362	12.886	0.841	0.922	0.531	10.769
13	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	.	5.906
13	Winter	75	MTBE	01/17/92	P	15%MTBE	3.425	13.315	0.723	1.059	1.540	4.978
13	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	4.117
13	Winter	75	ETBE	02/25/92	R	17.2%ETBE	3.556	12.026	1.110	1.785	0.348	5.400
13	Winter	75	EtOH	03/03/92	T	7.75%EtOH	3.786	14.780	0.850	1.046	0.294	3.193
13	Winter	75	EtOH/SB	03/05/92	V	7.75%EtOH/SB	2.979	11.678	0.673	0.769	0.260	4.966

APPENDIX E

EXHAUST NO_x DATA

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
1	Summer	75	Base	01/21/92	M	SummerBase	0.528	0.665	0.532	0.405	0.109	1.099
1	Summer	75	MTBE	02/11/92	O	11%MTBE	0.328	0.416	0.303	0.309	0.086	0.776
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	0.597	0.623	0.698	0.379	0.039	1.313
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	0.709	0.740	0.813	0.487	0.133	1.771
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	.	.	.	.	0.078	1.007
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	0.581	0.711	0.593	0.459	0.086	1.728
1	Summer	95	Base	05/04/92	M	SummerBase	0.975	1.845	0.949	0.368	0.274	1.911
1	Summer	95	MTBE	07/10/92	O	11%MTBE	0.539	1.316	0.453	0.115	0.243	0.777
1	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.730	1.539	0.624	0.318	0.153	1.133
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	0.535	1.283	0.424	0.182	0.098	0.495
1	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	0.069	.
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	0.568	1.468	0.394	0.214	0.168	0.357
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	.	.	.	.	.	.
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	0.589	1.054	0.565	0.286	0.136	1.452
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	0.639	1.234	0.599	0.265	0.051	1.787
1	Winter	50	MTBE	09/09/91	P	15%MTBE	0.540	0.891	0.518	0.315	0.090	1.281
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	0.613	0.969	0.521	0.516	0.155	1.715
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	0.495	0.977	0.441	0.233	0.100	1.122
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	0.638	1.109	0.578	0.397	0.159	1.459
1	Winter	75	Base	02/25/92	N	WinterBase	0.576	0.736	0.614	0.371	0.079	1.004
1	Winter	75	Base	08/10/92	N	WinterBase	0.329	0.353	0.352	0.266	0.045	1.458
1	Winter	75	MTBE	01/17/92	P	15%MTBE	0.495	0.680	0.470	0.409	0.085	1.903
1	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	1.367
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	0.396	0.493	0.400	0.305	0.066	0.631
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	0.532	0.584	0.616	0.349	0.097	1.114
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	0.550	0.507	0.697	0.311	0.255	1.998
2	Summer	75	Base	02/07/92	M	SummerBase	2.828	3.203	2.549	3.123	2.798	4.239
2	Summer	75	MTBE	02/11/92	O	11%MTBE	3.082	3.513	2.783	3.319	2.810	4.612
2	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	3.321	4.333	2.785	3.542	3.097	4.587
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	3.502	4.736	3.087	3.376	2.978	4.211
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	3.460	4.744	2.933	3.546	3.266	4.963
2	Summer	95	Base	05/06/92	M	SummerBase	4.109	5.034	3.471	4.615	3.707	7.742
2	Summer	95	MTBE	07/11/92	O	11%MTBE	3.133	5.704	1.362	4.536	4.047	5.244
2	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	4.653	5.792	3.968	5.086	3.952	6.482
2	Summer	95	ETBE	10/08/92	Q	12.8%ETBE	.	.	.	.	.	4.847
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	4.323	5.817	3.584	4.590	3.944	7.005
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	.	.	.	.	.	4.484

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	4.131	6.676	4.061	2.342	1.799	6.909
2	Summer	95	EtOH/SB	09/10/92	U	5.7%EtOH/SB	.	.	.	.	3.916	.
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	2.787	2.963	2.723	2.776	1.719	4.395
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	3.952	5.080	3.134	4.645	3.993	8.156
2	Winter	50	MTBE	08/22/91	P	15%MTBE	2.825	3.010	2.721	2.881	1.773	5.550
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	2.497	2.523	2.322	2.807	1.517	4.660
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	3.010	3.410	2.749	3.199	1.886	5.528
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	3.089	3.299	2.928	3.235	1.955	5.772
2	Winter	75	Base	03/05/92	N	WinterBase	3.407	1.901	3.392	4.610	3.271	5.147
2	Winter	75	MTBE	02/21/92	P	15%MTBE	3.321	4.242	2.770	3.630	2.891	4.859
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	3.377	4.248	2.859	3.791	3.174	4.446
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	4.062	5.343	3.472	4.545	3.842	5.729
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	3.757	4.729	3.141	4.196	3.676	5.224
3	Summer	75	Base	02/26/92	M	SummerBase	1.961	1.785	1.622	2.735	1.617	3.265
3	Summer	75	MTBE	02/27/92	O	11%MTBE	2.128	2.511	1.785	2.492	1.548	3.004
3	Summer	75	MTBE	08/05/92	O	11%MTBE	2.372	2.943	1.883	2.867	1.721	2.759
3	Summer	75	ETBE	03/06/92	Q	12.8%ETBE	2.146	2.679	1.709	2.570	1.506	2.965
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	2.187	2.536	1.824	2.612	1.504	3.325
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	2.509	2.863	2.031	3.145	1.725	3.387
3	Summer	95	Base	07/23/92	M	SummerBase	2.520	3.175	1.900	3.194	1.758	3.551
3	Summer	95	MTBE	07/15/92	O	11%MTBE	2.072	2.382	1.739	2.469	1.836	3.358
3	Summer	95	ETBE	07/21/92	Q	12.8%ETBE	2.335	2.901	1.835	2.851	3.273	3.443
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	2.238	2.670	1.782	2.774	2.533	3.446
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	2.247	2.051	1.807	3.227	1.807	3.742
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	2.306	1.861	2.034	3.158	1.706	2.830
3	Winter	50	MTBE	09/24/91	P	15%MTBE	2.182	1.911	1.910	2.900	1.616	3.559
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	2.097	1.927	1.788	2.809	1.531	3.506
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1.989	1.686	1.773	2.625	1.429	3.494
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	2.045	1.846	1.740	2.768	1.557	3.257
3	Winter	75	Base	03/17/92	N	WinterBase	2.899	3.452	2.310	3.596	1.987	3.893
3	Winter	75	Base	10/12/92	N	WinterBase	.	.	.	.	.	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	2.236	2.627	1.818	2.732	2.725	2.900
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	1.973	2.431	1.564	2.397	1.468	2.761
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	1.978	2.677	1.806	1.780	2.546	3.013
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	2.164	2.944	1.936	2.006	1.667	2.754
4	Summer	75	Base	01/13/92	M	SummerBase	0.208	0.721	0.027	0.162	0.020	0.193
4	Summer	75	MTBE	02/10/92	O	11%MTBE	0.236	0.647	0.054	0.270	0.033	0.391

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
4	Summer	75	MTBE	07/29/92	O	11%MTBE	0.234	0.679	0.045	0.254	0.050	0.842
4	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.235	0.472	0.109	0.294	0.040	0.136
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.356	0.852	0.127	0.412	0.069	0.331
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.282	0.655	0.136	0.277	0.085	0.492
4	Summer	95	Base	05/22/92	M	SummerBase	0.257	0.662	0.078	0.291	0.047	0.414
4	Summer	95	Base	10/20/92	M	SummerBase	.	.	.	.	.	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	0.308	0.721	0.147	0.299	0.098	0.733
4	Summer	95	ETBE	06/04/92	Q	12.8%ETBE	0.286	0.652	0.152	0.262	0.093	0.447
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.286	0.710	0.140	0.242	0.067	0.633
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.261
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	0.311	0.813	0.110	0.312	0.072	0.488
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	0.347	1.083	0.051	0.348	0.074	0.311
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	0.315	1.053	0.042	0.274	0.032	0.460
4	Winter	50	MTBE	08/21/91	P	15%MTBE	0.249	0.804	0.051	0.203	0.013	0.425
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	0.285	0.946	0.057	0.214	0.021	0.171
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	0.453	1.526	0.097	0.314	0.037	0.448
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	0.512	2.116	0.037	0.194	0.020	0.374
4	Winter	75	Base	02/04/92	N	WinterBase	0.320	0.638	0.163	0.377	0.148	0.476
4	Winter	75	MTBE	01/21/92	P	15%MTBE	0.202	0.511	0.086	0.190	0.029	0.290
4	Winter	75	MTBE	08/07/92	P	15%MTBE	0.220	0.622	0.052	0.234	0.022	0.517
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	0.186	0.538	0.055	0.167	0.020	0.348
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	0.272	0.712	0.108	0.251	0.113	0.509
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	0.339	0.685	0.211	0.319	0.079	0.395
5	Summer	75	Base	01/20/92	M	SummerBase	0.479	0.937	0.319	0.435	0.097	0.792
5	Summer	75	MTBE	02/10/92	O	11%MTBE	0.375	0.848	0.236	0.281	0.106	0.570
5	Summer	75	ETBE	02/17/92	Q	12.8%ETBE	0.424	0.835	0.277	0.391	0.091	0.889
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	0.405	0.797	0.257	0.388	0.098	0.742
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.412	0.856	0.223	0.434	0.090	0.883
5	Summer	95	Base	05/20/92	M	SummerBase	0.399	0.942	0.201	0.362	0.125	0.849
5	Summer	95	MTBE	07/08/92	O	11%MTBE	0.453	0.956	0.280	0.402	0.112	1.156
5	Summer	95	ETBE	06/05/92	Q	12.8%ETBE	0.346	0.829	0.166	0.322	0.098	0.820
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.411	0.820	0.287	0.337	0.119	0.956
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.722
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	0.407	0.739	0.278	0.402	0.214	0.827
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	0.382	0.620	0.248	0.454	0.083	0.806
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	0.504	0.715	0.430	0.483	0.152	1.887
5	Winter	50	MTBE	08/28/91	P	15%MTBE	0.399	0.594	0.309	0.421	0.119	0.447

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	0.521	0.860	0.410	0.473	0.133	0.779
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	0.386	0.669	0.229	0.467	0.153	0.654
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	0.467	0.682	0.391	0.449	0.158	0.883
5	Winter	75	Base	02/04/92	N	WinterBase	0.425	0.770	0.275	0.446	0.214	0.734
5	Winter	75	MTBE	01/05/92	P	15%MTBE	0.405	0.862	0.256	0.341	0.089	0.662
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.395	0.770	0.208	0.466	0.111	0.983
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.465	0.833	0.334	0.435	0.104	0.817
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	0.492	0.885	0.366	0.434	0.120	0.985
6	Summer	75	Base	02/04/92	M	SummerBase	0.284	0.659	0.113	0.323	0.068	0.835
6	Summer	75	MTBE	02/11/92	O	11%MTBE	0.390	0.810	0.228	0.379	0.069	1.085
6	Summer	75	ETBE	02/19/92	Q	12.8%ETBE	0.418	0.976	0.197	0.414	0.066	1.094
6	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.445	0.925	0.217	0.514	0.051	1.309
6	Summer	75	EtOH/SB	02/07/92	U	5.7%EtOH/SB	0.527	0.862	0.347	0 613	0.094	0.950
6	Summer	95	Base	05/05/92	M	SummerBase	1.016	2.621	0.412	0.946	0.222	5.386
6	Summer	95	MTBE	07/24/92	O	11%MTBE	0.390	1.142	0.063	0.439	0.126	0.501
6	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.517	1.283	0.178	0.576	0.089	0.681
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	0.518	1.523	0.202	0.355	0.108	0.620
6	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	0.552	1.485	0.193	0.526	0.277	0.719
6	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.486	1.189	0.213	0.469	0.136	1.135
6	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	0.500	1.301	0.204	0.454	0.198	2.846
6	Winter	50	MTBE	09/19/91	P	15%MTBE	0.509	1.240	0.205	0.528	0.125	1.022
6	Winter	50	ETBE	09/16/91	R	17.2%ETBE	0.485	1.121	0.254	0.442	0.170	0.828
6	Winter	50	EtOH	09/10/91	T	7.75%EtOH	0.646	1.595	0.267	0.646	0.202	1.294
6	Winter	50	EtOH/SB	09/05/91	V	7.75%EtOH/SB	0.529	1.172	0.224	0.619	0.143	0.999
6	Winter	75	Base	03/18/92	N	WinterBase	0.497	0.950	0.277	0.571	0.164	0.125
6	Winter	75	MTBE	12/02/91	P	15%MTBE	0.427	0.833	0.184	0.577	0.083	0.562
6	Winter	75	ETBE	02/24/92	R	17.2%ETBE	0.412	0.730	0.179	0.611	0.092	0.653
6	Winter	75	EtOH	01/31/92	T	7.75%EtOH	0.463	0.966	0.254	0.475	0.126	0.931
6	Winter	75	EtOH/SB	02/17/92	V	7.75%EtOH/SB	0.536	0.900	0.282	0.738	0.100	2.130
7	Summer	75	Base	01/17/92	M	SummerBase	1.511	2.984	0.841	1.661	1.708	1.230
7	Summer	75	MTBE	02/17/92	O	11%MTBE	1.247	2.356	0.659	1.520	1.891	1.304
7	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	1.246	2.185	0.699	1.573	2.029	1.092
7	Summer	75	EtOH	01/30/92	S	5.7%EtOH	1.450	2.718	0.840	1.647	1.368	1.719
7	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	1.170	2.284	0.692	1.236	1.813	1.137
7	Summer	95	Base	09/10/92	M	SummerBase	2.265	2.730	1.721	2.941	3.281	2.267
7	Summer	95	MTBE	09/01/92	O	11%MTBE	2.267	3.477	1.464	2.867	2.469	1.856
7	Summer	95	ETBE	09/04/92	Q	12.8%ETBE	2.482	3.071	1.960	3.024	3.564	2.369

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
7	Summer	95	EtOH	08/27/92	S	5.7%EtOH	2.556	3.284	1.891	3.246	3.494	2.250
7	Summer	95	EtOH/SB	08/19/92	U	5.7%EtOH/SB	1.742	2.376	1.035	2.602	2.675	1.659
7	Summer	95	EtOH/SB	11/04/92	U	5.7%EtOH/SB	2.106	2.754	1.486	2.788	2.891	2.045
7	Winter	50	LowRVPBase	08/22/91	X	LowRVPWinterBase	1.665	3.083	1.046	1.763	1.668	0.788
7	Winter	50	LowRVPBase	12/06/91	X	LowRVPWinterBase	1.522	3.270	0.849	1.474	1.428	1.394
7	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	2.091	3.659	1.297	2.412	2.384	2.479
7	Winter	50	NewStockBase	10/29/92	Y	NewStockWinterBase	2.635	3.284	1.937	3.466	2.667	2.948
7	Winter	50	MTBE	08/19/91	P	15%MTBE	1.720	3.592	0.996	1.672	1.260	2.576
7	Winter	50	MTBE	12/04/91	P	15%MTBE	1.700	3.211	0.994	1.897	1.810	1.647
7	Winter	50	ETBE	08/29/91	R	17.2%ETBE	1.808	3.366	1.066	2.033	1.930	0.885
7	Winter	50	EtOH	08/27/91	T	7.75%EtOH	1.943	3.352	1.119	2.434	2.110	1.413
7	Winter	50	EtOH/SB	09/13/91	V	7.75%EtOH/SB	1.160	2.977	0.914	1.895	1.559	0.679
7	Winter	75	Base	02/05/92	N	WinterBase	1.227	2.447	0.663	1.373	1.952	1.162
7	Winter	75	MTBE	01/05/92	P	15%MTBE	1.299	2.601	0.702	1.446	1.655	1.664
7	Winter	75	ETBE	01/24/92	R	17.2%ETBE	1.416	2.543	0.865	1.606	2.017	1.506
7	Winter	75	EtOH	01/09/92	T	7.75%EtOH	1.348	2.505	0.791	1.529	1.615	1.705
7	Winter	75	EtOH/SB	01/14/92	V	7.75%EtOH/SB	1.166	2.612	0.650	1.051	1.471	1.141
8	Summer	75	Base	01/13/92	M	SummerBase	1.043	1.177	0.948	1.122	0 744	2.456
8	Summer	75	MTBE	02/10/92	O	11%MTBE	0.727	0.917	0.588	0.845	0.683	1.790
8	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	1.045	1.176	0.945	1.134	0.724	2.533
8	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.910	1.150	0.804	0.930	0.718	2.047
8	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	0.774	1.025	0.648	0.821	0.633	1.549
8	Summer	95	Base	05/19/92	M	SummerBase	1.456	1.533	1.378	1.544	1.035	3.450
8	Summer	95	MTBE	07/20/92	O	11%MTBE	1.125	1.291	1.036	1.168	1.056	2.032
8	Summer	95	ETBE	06/17/92	Q	12.8%ETBE	1.260	1.377	1.151	1.376	1.099	2.320
8	Summer	95	EtOH	06/01/92	S	5.7%EtOH	1.180	1.264	1.084	1.297	0.975	2.413
8	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	1.498	1.586	1.389	1.636	1.272	2.871
8	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.765	1.102	0.581	0.859	0.602	1.666
8	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	1.211	1.502	1.109	1.184	0.895	3.079
8	Winter	50	MTBE	08/16/91	P	15%MTBE	0.987	1.425	0.871	0.877	0.605	1.913
8	Winter	50	MTBE	12/04/91	P	15%MTBE	0.819	1.244	0.640	0.836	0.646	1.471
8	Winter	50	ETBE	08/21/91	R	17.2%ETBE	0.935	1.277	0.817	0.902	0.570	1.858
8	Winter	50	EtOH	09/17/91	T	7.75%EtOH	0.927	1.401	0.722	0.959	0.672	1.892
8	Winter	50	EtOH/SB	08/22/91	V	7.75%EtOH/SB	1.021	1.420	0.841	1.060	0.705	2.051
8	Winter	75	Base	02/05/92	N	WinterBase	0.812	0.982	0.708	0.879	0.753	1.853
8	Winter	75	MTBE	12/12/91	P	15%MTBE	0.746	0.970	0.620	0.816	0.725	1.874
8	Winter	75	ETBE	01/28/92	R	17.2%ETBE	0.835	0.993	0.744	0.886	0.648	1.682

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
8	Winter	75	EtOH	01/08/92	T	7.75%EtOH	1.032	1.248	0.877	1.163	0.653	1.660
8	Winter	75	EtOH/SB	01/21/92	V	7.75%EtOH/SB	0.837	1.124	0.677	0.930	0.890	1.834
8	Winter	75	EtOH/SB	08/04/92	V	7.75%EtOH/SB	1.173	1.297	1.054	1.301	1.044	2.754
9	Summer	75	Base	02/05/92	M	SummerBase	0.169	0.437	0.081	0.132	0.048	0.134
9	Summer	75	MTBE	02/27/92	O	11%MTBE	0.206	0.538	0.072	0.210	0.062	0.149
9	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	0.155	0.434	0.060	0.124	0.030	0.136
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	0.150	0.449	0.059	0.097	0.030	0.180
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.159	0.450	0.069	0.111	0.030	0.126
9	Summer	95	Base	04/29/92	M	SummerBase	0.270	0.736	0.121	0.201	0.028	0.196
9	Summer	95	MTBE	07/13/92	O	11%MTBE	0.173	0.499	0.068	0.126	0.011	0.155
9	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.217	0.635	0.095	0.133	0.024	0.150
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	0.186	0.586	0.069	0.105	0.008	0.152
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	0.216	0.718	0.060	0.133	0.010	0.326
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	0.196	0.423	0.132	0.146	0.023	0.158
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	0.178	0.420	0.110	0.124	0.019	0.119
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	0.191	0.621	0.046	0.142	0.054	0.185
9	Winter	50	MTBE	09/06/91	P	15%MTBE	0.178	0.424	0.107	0.126	0.025	0.201
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	0.193	0.420	0.131	0.140	0.020	0.212
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	0.168	0.436	0.076	0.141	0.011	0.156
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	0.194	0.485	0.112	0.129	0.015	0.169
9	Winter	75	Base	03/03/92	N	WinterBase	0.206	0.621	0.067	0.157	0.036	0.064
9	Winter	75	MTBE	11/27/91	P	15%MTBE	0.144	0.456	0.044	0.098	0.003	0.100
9	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	0.043	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	0.176	0.464	0.074	0.150	0.043	0.153
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	0.169	0.504	0.041	0.158	0.032	0.199
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	0.157	0.499	0.056	0.092	0.009	0.153
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	0.214	0.622	0.070	0.176	0.025	0.214
10	Summer	75	Base	01/13/92	M	SummerBase	1.847	2.593	1.567	1.810	1.307	3.699
10	Summer	75	MTBE	02/10/92	O	11%MTBE	2.297	2.757	2.108	2.306	1.719	4.389
10	Summer	75	MTBE	07/23/92	O	11%MTBE	.	.	.	.	.	3.174
10	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	2.074	2.512	1.842	2.181	1.705	3.835
10	Summer	75	EtOH	01/22/92	S	5.7%EtOH	2.502	3.206	2.212	2.518	1.894	4.871
10	Summer	75	EtOH	07/23/92	S	5.7%EtOH	.	.	.	.	.	2.803
10	Summer	75	EtOH/SB	02/04/92	U	5.7%EtOH/SB	2.149	2.701	1.964	2.083	1.268	3.694
10	Summer	75	EtOH/SB	07/01/92	U	5.7%EtOH/SB	.	.	.	.	1.480	3.841
10	Summer	95	Base	05/13/92	M	SummerBase	1.603	1.684	1.539	1.663	1.051	3.900
10	Summer	95	MTBE	07/28/92	O	11%MTBE	1.870	2.249	1.728	1.852	0.889	3.030

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
10	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	2.513	2.768	2.437	2.464	1.736	4.378
10	Summer	95	EtOH	05/22/92	S	5.7%EtOH	2.615	2.855	2.455	2.735	2.877	4.518
10	Summer	95	EtOH/SB	08/20/92	U	5.7%EtOH/SB	1.987	2.593	1.827	1.833	1.527	3.713
10	Winter	50	LowRVPBase	09/18/91	X	LowRVPWinterBase	2.075	1.303	2.124	2.565	1.881	4.749
10	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	1.875	1.494	1.834	2.240	1.606	4.409
10	Winter	50	MTBE	09/05/91	P	15%MTBE	2.551	1.334	2.681	3.224	2.331	5.892
10	Winter	50	ETBE	09/16/91	R	17.2%ETBE	2.330	1.390	2.390	2.929	1.967	5.943
10	Winter	50	EtOH	09/11/91	T	7.75%EtOH	2.562	1.285	2.689	3.288	2.461	6.034
10	Winter	50	EtOH/SB	09/23/91	V	7.75%EtOH/SB	2.620	1.509	2.694	3.318	2.567	5.537
10	Winter	75	Base	03/12/92	N	WinterBase	1.953	2.179	1.852	1.973	0.998	3.284
10	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	1.450	.
10	Winter	75	MTBE	12/03/91	P	15%MTBE	2.453	3.142	2.170	2.465	1.384	4.240
10	Winter	75	ETBE	01/24/92	R	17.2%ETBE	2.268	2.626	2.069	2.375	1.496	5.260
10	Winter	75	EtOH	01/09/92	T	7.75%EtOH	2.063	2.525	2.027	1.782	1.270	4.327
10	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	2.237	2.794	2.017	2.236	1.098	4.064
11	Summer	75	Base	02/17/92	M	SummerBase	1.829	2.520	1.435	2.056	1.807	3.149
11	Summer	75	MTBE	02/28/92	O	11%MTBE	1.949	2.915	1.284	2.478	2.065	2.505
11	Summer	75	ETBE	02/25/92	Q	12.8%ETBE	1.620	2.637	1.046	1.937	1.360	1.584
11	Summer	75	EtOH	03/13/92	S	5.7%EtOH	1.919	3.024	1.344	2.170	1.993	2.573
11	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	1.890	2.835	1.515	1.881	1.743	2.599
11	Summer	95	Base	05/20/92	M	SummerBase	1.780	3.000	1.102	2.137	2.166	2.083
11	Summer	95	MTBE	07/22/92	O	11%MTBE	1.560	2.599	0.981	1.875	2.096	1.586
11	Summer	95	ETBE	06/18/92	Q	12.8%ETBE	1.554	2.583	0.912	1.989	2.109	1.796
11	Summer	95	EtOH	06/03/92	S	5.7%EtOH	1.727	3.003	1.081	1.986	2.212	1.787
11	Summer	95	EtOH/SB	07/06/92	U	5.7%EtOH/SB	1.730	3.062	0.946	2.211	2.345	2.219
11	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	1.324	3.162	0.645	1.219	0.786	1.512
11	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	2.378	2.522	2.120	2.755	1.867	2.902
11	Winter	50	MTBE	09/13/91	P	15%MTBE	1.211	2.959	0.576	1.083	0.666	1.457
11	Winter	50	ETBE	08/28/91	R	17.2%ETBE	1.305	3.441	0.565	1.095	0.679	1.484
11	Winter	50	EtOH	08/30/91	T	7.75%EtOH	1.450	3.863	0.598	1.231	0.666	1.630
11	Winter	50	EtOH/SB	08/21/91	V	7.75%EtOH/SB	1.380	3.512	0.611	1.216	0.621	1.484
11	Winter	75	Base	03/10/92	N	WinterBase	1.523	2.373	0.968	1.937	1.778	1.744
11	Winter	75	MTBE	03/26/92	P	15%MTBE	1.541	2.894	1.224	1.117	1.760	2.527
11	Winter	75	ETBE	01/28/92	R	17.2%ETBE	1.036	1.825	0.656	1.158	0.940	2.370
11	Winter	75	ETBE	07/27/92	R	17.2%ETBE	.	.	.	.	1.509	2.126
11	Winter	75	EtOH	03/06/92	T	7.75%EtOH	1.716	2.739	1.144	2.025	1.842	2.182
11	Winter	75	EtOH/SB	03/25/92	V	7.75%EtOH/SB	1.958	3.073	1.395	2.179	1.799	2.716

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
11	Winter	75	EtOH/SB	08/12/92	V	7.75%EtOH/SB	1.910	2.811	1.392	2.219	1.813	2.557
12	Summer	75	Base	02/26/92	M	SummerBase	0.915	1.017	0.783	1.089	0.905	1.480
12	Summer	75	Base	05/06/92	M	SummerBase	.	.	.	.	1.281	2.329
12	Summer	75	MTBE	02/27/92	O	11%MTBE	1.005	1.066	0.868	1.219	1.022	1.623
12	Summer	75	ETBE	03/23/92	Q	12.8%ETBE	1.092	1.176	0.947	1.301	1.117	1.878
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	1.104	1.246	0.947	1.295	1.074	1.915
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	1.139	1.246	0.918	1.475	1.049	1.901
12	Summer	95	Base	04/27/92	M	SummerBase	1.177	1.412	0.968	1.396	1.137	1.951
12	Summer	95	MTBE	07/14/92	O	11%MTBE	1.171	1.233	0.975	1.494	1.313	1.769
12	Summer	95	ETBE	05/15/92	Q	12.8%ETBE	1.124	1.287	0.899	1.426	1.270	1.645
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	1.468	1.564	1.273	1.765	1.596	2.178
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	1.278	1.306	1.075	1.641	1.321	2.277
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	1.513	1.579	1.465	1.554	1.207	2.702
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	0.682	0.652	0.588	0.882	0.699	1.343
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	1.242	0.945	1.189	1.565	1.422	2.402
12	Winter	50	MTBE	09/19/91	P	15%MTBE	0.901	1.236	0.660	1.104	0.885	1.742
12	Winter	50	MTBE	12/21/91	P	15%MTBE	0.817	0.704	0.703	1.119	0.666	1.520
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	1.052	1.323	0.855	1.220	1.011	2.509
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	0.899	1.186	0.674	1.107	0.850	1.896
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	0.963	1.346	0.727	1.117	0.887	1.845
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	0.837	0.893	0.689	1.074	0.786	1.761
12	Winter	75	Base	03/09/92	N	WinterBase	0.931	0.901	0.809	1.185	0.963	1.426
12	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	1.411	2.123
12	Winter	75	MTBE	03/25/92	P	15%MTBE	1.176	1.259	0.973	1.499	1.228	1.802
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1.141	1.090	1.029	1.392	1.086	1.761
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	1.157	1.193	0.976	1.471	1.183	2.267
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	1.026	1.092	0.813	1.378	1.107	1.442
13	Summer	75	Base	03/11/92	M	SummerBase	0.240	0.527	0.132	0.228	0.091	0.269
13	Summer	75	MTBE	02/27/92	O	11%MTBE	0.239	0.613	0.067	0.281	0.039	0.105
13	Summer	75	ETBE	02/21/92	Q	12.8%ETBE	0.207	0.445	0.145	0.145	0.059	0.108
13	Summer	75	EtOH	03/09/92	S	5.7%EtOH	0.180	0.507	0.083	0.115	0.046	0.182
13	Summer	75	EtOH/SB	03/17/92	U	5.7%EtOH/SB	0.285	0.406	0.194	0.366	0.060	0.276
13	Summer	95	Base	05/11/92	M	SummerBase	0.136	0.303	0.070	0.134	0.074	0.156
13	Summer	95	MTBE	07/16/92	O	11%MTBE	0.130	0.219	0.091	0.138	0.039	0.071
13	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.104	0.237	0.052	0.101	0.047	0.649
13	Summer	95	EtOH	06/02/92	S	5.7%EtOH	0.147	0.335	0.046	0.195	0.066	0.264
13	Summer	95	EtOH/SB	08/21/92	U	5.7%EtOH/SB	0.239	0.429	0.118	0.324	0.052	1.348

Total Exhaust NOx Emissions

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g/mi)	Bag 1 (g/mi)	Bag 2 (g/mi)	Bag 3 (g/mi)	HFET (g/mi)	NYCC (g/mi)
13	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	0.240	0.502	0.164	0.185	0.063	0.455
13	Winter	50	NewStockBase	08/25/92	Y	NewStockWinterBase	0.242	0.407	0.198	0.201	0.066	0.361
13	Winter	50	MTBE	08/28/91	P	15%MTBE	0.192	0.320	0.144	0.187	0.035	0.324
13	Winter	50	ETBE	09/20/91	R	17.2%ETBE	0.129	0.267	0.058	0.159	0.060	0.317
13	Winter	50	EtOH	09/10/91	T	7.75%EtOH	0.207	0.449	0.149	0.132	0.027	0.307
13	Winter	50	EtOH/SB	09/17/91	V	7.75%EtOH/SB	0.222	0.511	0.137	0.163	0.057	0.525
13	Winter	75	Base	03/02/92	N	WinterBase	0.166	0.445	0.048	0.176	0.080	0.351
13	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	.	0.075
13	Winter	75	MTBE	01/17/92	P	15%MTBE	0.096	0.313	0.021	0.073	0.106	0.091
13	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	0.060
13	Winter	75	ETBE	02/25/92	R	17.2%ETBE	0.176	0.294	0.080	0.271	0.077	0.178
13	Winter	75	EtOH	03/03/92	T	7.75%EtOH	0.229	0.544	0.126	0.185	0.067	0.213
13	Winter	75	EtOH/SB	03/05/92	V	7.75%EtOH/SB	0.127	0.326	0.046	0.129	0.044	0.263

APPENDIX F

EXHAUST ESTIMATED OZONE PRODUCTION

Exhaust Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g O3/mi)	Bag 1 (g O3/mi)	Bag 2 (g O3/mi)	Bag 3 (g O3/mi)	HFET (g O3/mi)	NYCC (g O3/mi)
1	Summer	75	Base	01/21/92	M	SummerBase	0.604	2.736	0.022	0.104	0.056	0.832
1	Summer	75	MTBE	02/11/92	O	11%MTBE	0.595	2.481	0.074	0.157	0.069	0.604
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	0.557	2.404	0.060	0.105	0.072	0.710
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	0.587	2.154	0.142	0.243	0.100	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	.	.	.	.	0.091	1.221
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	0.642	2.849	0.044	0.109	0.068	1.120
1	Summer	95	Base	05/04/92	M	SummerBase	1.205	4.591	0.019	0.886	.	2.087
1	Summer	95	MTBE	07/10/92	O	11%MTBE	0.973	3.639	0.043	0.704	.	1.300
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	0.988	3.831	0.017	0.676	.	1.171
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	0.922	3.557	0.033	0.617	.	1.301
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	0.921	3.423	0.013	0.739	.	1.458
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	1.065	4.438	0.023	0.481	0.270	1.148
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	1.442	6.125	0.057	0.520	0.069	3.907
1	Winter	50	MTBE	09/09/91	P	15%MTBE	1.072	4.586	0.047	0.357	0.075	0.396
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	0.090	0.374	0.019	0.010	0.002	0.009
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1.158	4.720	0.062	0.533	0.319	0.715
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	1.097	4.592	0.039	0.456	0.107	0.381
1	Winter	75	Base	02/25/92	N	WinterBase	0.935	3.465	0.071	0.657	0.077	0.658
1	Winter	75	Base	08/10/92	N	WinterBase	0.670	2.939	0.048	0.108	0.097	1.768
1	Winter	75	MTBE	01/17/92	P	15%MTBE	0.490	2.155	0.036	0.093	0.057	3.963
1	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	.	0.833
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	0.540	2.287	0.058	0.130	0.075	1.328
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	0.584	2.382	0.082	0.175	0.166	1.324
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	0.018	0.061	0.007	0.006	0.001	0.000
2	Summer	75	Base	02/07/92	M	SummerBase	4.909	11.092	2.778	4.271	1.954	6.787
2	Summer	75	MTBE	02/11/92	O	11%MTBE	4.347	10.228	2.333	3.713	1.547	7.005
2	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	0.217	0.400	0.180	0.149	0.099	0.225
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	5.306	10.179	3.703	4.669	1.567	9.094
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	4.779	10.939	2.610	4.195	1.444	7.340
2	Summer	95	Base	05/06/92	M	SummerBase	5.638	11.928	3.356	5.222	.	19.696
2	Summer	95	MTBE	07/11/92	O	11%MTBE	5.428	11.247	3.107	5.425	.	9.128
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	4.830	9.615	3.222	4.243	.	11.385
2	Summer	95	ETBE	10/08/92	Q	12.7%ETBE	.	.	.	.	.	8.254
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	5.132	10.465	3.352	4.477	.	7.200
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	.	.	.	.	.	10.072
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	4.690	9.507	2.905	4.424	.	8.978
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	6.080	17.833	2.052	4.786	1.896	9.903

Exhaust Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g O3/mi)	Bag 1 (g O3/mi)	Bag 2 (g O3/mi)	Bag 3 (g O3/mi)	HFET (g O3/mi)	NYCC (g O3/mi)
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	7.263	20.272	3.085	5.334	1.709	9.800
2	Winter	50	MTBE	08/22/91	P	15%MTBE	4.638	14.811	1.364	3.141	1.174	6.979
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	4.344	13.301	1.579	2.791	1.534	7.026
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	4.688	14.208	1.339	3.814	1.483	7.367
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	5.118	8.267	4.506	3.885	1.286	8.013
2	Winter	75	Base	03/05/92	N	WinterBase	5.775	11.007	4.086	5.033	1.606	7.842
2	Winter	75	MTBE	02/21/92	P	15%MTBE	4.588	10.461	2.560	3.979	1.225	4.725
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	4.097	11.109	1.360	3.951	1.696	7.448
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	5.315	11.512	3.360	4.317	2.419	11.843
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	4.923	10.556	2.967	4.360	1.867	11.969
3	Summer	75	Base	02/26/92	M	SummerBase	9.092	10.590	8.264	9.530	4.627	19.267
3	Summer	75	MTBE	02/27/92	O	11%MTBE	8.484	12.878	6.649	8.656	3.866	18.815
3	Summer	75	MTBE	08/05/92	O	11%MTBE	8.703	11.927	7.246	9.022	3.524	15.438
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	7.470	8.652	6.711	8.001	3.737	17.043
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	7.516	11.643	5.995	7.286	3.687	15.798
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	8.058	12.761	6.152	8.126	3.082	15.788
3	Summer	95	Base	07/23/92	M	SummerBase	10.510	14.193	9.212	10.161	.	21.153
3	Summer	95	MTBE	07/15/92	O	11%MTBE	10.540	14.023	9.714	9.481	.	24.660
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	9.312	11.892	8.815	8.293	.	22.928
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	10.954	14.558	10.090	9.871	.	24.245
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	7.102	15.187	4.114	6.672	2.731	13.765
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	8.828	14.740	7.273	7.326	3.297	15.732
3	Winter	50	MTBE	09/24/91	P	15%MTBE	7.820	14.297	5.629	7.062	3.241	19.136
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	7.655	21.108	3.137	6.070	2.532	16.657
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	6.009	12.486	3.423	6.026	2.357	22.166
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	8.299	23.925	2.798	6.901	1.854	13.424
3	Winter	75	Base	03/17/92	N	WinterBase	9.204	12.165	8.177	8.916	4.088	16.128
3	Winter	75	MTBE	03/19/92	P	15%MTBE	7.369	9.496	6.777	6.902	3.932	16.696
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	8.165	12.403	6.415	8.279	5.230	17.108
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	7.127	12.841	5.024	6.810	4.360	15.054
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	7.618	13.968	5.290	7.238	3.250	14.284
4	Summer	75	Base	01/13/92	M	SummerBase	1.011	3.867	0.246	0.306	0.095	0.428
4	Summer	75	MTBE	02/10/92	O	11%MTBE	0.845	3.521	0.118	0.193	0.092	0.461
4	Summer	75	MTBE	07/29/92	O	11%MTBE	0.747	3.167	0.077	0.186	0.065	0.648
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	0.930	4.013	0.052	0.267	0.092	0.420
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.936	3.712	0.063	0.484	0.084	0.490
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.851	3.393	0.062	0.423	0.055	0.255

Exhaust Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g O3/mi)	Bag 1 (g O3/mi)	Bag 2 (g O3/mi)	Bag 3 (g O3/mi)	HFET (g O3/mi)	NYCC (g O3/mi)
4	Summer	95	Base	05/22/92	M	SummerBase	0.862	3.439	0.143	0.283	.	0.512
4	Summer	95	MTBE	07/09/92	O	11%MTBE	0.779	3.179	0.096	0.259	.	0.401
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	0.702	3.057	0.048	0.159	.	0.122
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	1.004	4.275	0.029	0.381	.	1.077
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.322
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	0.703	2.982	0.051	0.216	.	0.284
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	1.242	5.481	0.082	0.215	0.069	0.349
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	1.333	5.531	0.108	0.472	0.057	0.558
4	Winter	50	MTBE	08/21/91	P	15%MTBE	3.047	11.074	0.481	1.824	0.221	0.815
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	0.921	3.963	0.030	0.310	0.343	1.247
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	2.316	9.473	0.323	0.665	0.136	0.487
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	1.191	3.773	0.118	1.263	0.152	0.421
4	Winter	75	Base	02/04/92	N	WinterBase	0.693	2.397	0.202	0.335	0.097	0.801
4	Winter	75	MTBE	01/21/92	P	15%MTBE	0.836	3.300	0.128	0.326	0.132	0.250
4	Winter	75	MTBE	08/07/92	P	15%MTBE	0.743	2.785	0.173	0.265	0.099	0.416
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	0.779	2.961	0.161	0.308	0.036	0.141
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	0.801	3.210	0.092	0.323	0.066	0.773
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	0.807	3.334	0.092	0.248	0.073	1.271
5	Summer	75	Base	01/20/92	M	SummerBase	0.807	2.939	0.174	0.394	0.140	1.561
5	Summer	75	MTBE	02/10/92	O	11%MTBE	1.414	3.344	0.062	2.503	0.055	0.916
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	0.653	2.822	0.082	0.097	0.073	1.362
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	0.822	3.092	0.172	0.342	0.099	0.865
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.737	2.990	0.067	0.298	0.014	1.420
5	Summer	95	Base	05/20/92	M	SummerBase	0.480	2.055	0.036	0.137	.	1.461
5	Summer	95	MTBE	07/08/92	O	11%MTBE	0.582	2.650	0.027	0.067	.	0.602
5	Summer	95	ETBE	06/05/92	Q	12.7%ETBE	0.483	2.083	0.058	0.078	.	0.217
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.572	2.523	0.040	0.103	.	1.412
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.	.	.	0.773
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	0.445	1.960	0.013	0.123	.	1.052
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	1.622	6.765	0.275	0.291	0.082	1.317
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	1.238	5.513	0.082	0.198	0.075	9.444
5	Winter	50	MTBE	08/28/91	P	15%MTBE	1.363	5.845	0.134	0.290	0.066	0.319
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	0.986	4.294	0.090	0.181	0.073	1.794
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	0.025	0.084	0.008	0.015	0.048	0.580
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	1.075	4.576	0.082	0.295	0.062	0.431
5	Winter	75	Base	02/04/92	N	WinterBase	0.617	2.605	0.065	0.159	0.069	0.997
5	Winter	75	MTBE	01/05/92	P	15%MTBE	0.684	2.705	0.146	0.178	0.065	0.770

Exhaust Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g O3/mi)	Bag 1 (g O3/mi)	Bag 2 (g O3/mi)	Bag 3 (g O3/mi)	HFET (g O3/mi)	NYCC (g O3/mi)
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.596	2.488	0.076	0.150	0.052	0.635
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.617	2.180	0.104	0.411	0.096	0.786
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	0.472	1.947	0.038	0.176	0.067	1.123
9	Summer	75	Base	02/05/92	M	SummerBase	1.216	3.883	0.158	1.204	0.259	1.741
9	Summer	75	MTBE	02/27/92	O	11%MTBE	1.355	4.095	0.218	1.432	0.342	1.364
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	1.135	3.382	0.137	1.331	0.172	4.352
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	1.238	3.446	0.221	1.492	0.194	4.529
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.032	0.082	0.021	0.014	0.234	2.190
9	Summer	95	Base	04/29/92	M	SummerBase	1.145	3.357	0.161	1.334		3.850
9	Summer	95	MTBE	07/13/92	O	11%MTBE	1.302	3.791	0.154	1.592		5.842
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	1.067	3.381	0.110	1.132	.	4.608
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	1.313	3.526	0.269	1.609	.	4.316
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	1.364	3.444	0.311	1.778	.	5.926
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	1.208	4.758	0.064	0.696	0.135	1.821
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	1.175	4.428	0.057	0.819	0.281	2.486
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	1.717	6.430	0.191	1.043	0.230	4.195
9	Winter	50	MTBE	09/06/91	P	15%MTBE	1.209	4.952	0.033	0.603	0.126	3.676
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	1.196	4.834	0.071	0.561	0.125	1.871
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1.335	5.188	0.082	0.795	0.181	2.925
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	1.240	4.878	0.054	0.738	0.248	3.557
9	Winter	75	Base	03/03/92	N	WinterBase	1.629	4.513	0.363	1.850	0.420	3.735
9	Winter	75	MTBE	11/27/91	P	15%MTBE	0.025	0.106	0.003	0.005	0.009	0.002
9	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.	.	0.178	
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1.187	3.408	0.136	1.486	0.271	2.282
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	1.426	3.629	0.466	1.574	0.223	5.569
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	1.313	2.846	0.379	1.935	0.870	3.768
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	1.181	3.503	0.228	1.222	0.536	5.923
12	Summer	75	Base	02/26/92	M	SummerBase	7.083	11.076	5.965	6.162	0.774	37.186
12	Summer	75	Base	05/06/92	M	SummerBase	.	.	.	.	0.189	30.760
12	Summer	75	MTBE	02/27/92	O	11%MTBE	10.131	14.113	9.443	8.433	1.139	51.506
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	6.974	9.249	6.424	6.296	0.589	40.146
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	8.586	11.509	7.765	7.943	0.866	46.715
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	8.206	12.437	7.075	7.151	1.061	42.655
12	Summer	95	Base	04/27/92	M	SummerBase	4.959	9.451	3.286	4.739	.	25.578
12	Summer	95	MTBE	07/14/92	O	11%MTBE	7.077	8.633	6.907	6.230	.	28.068
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	4.904	6.526	4.616	4.223	.	26.258
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	6.592	7.965	6.446	5.841	.	29.060

Exhaust Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	FTP (g O3/mi)	Bag 1 (g O3/mi)	Bag 2 (g O3/mi)	Bag 3 (g O3/mi)	HFET (g O3/mi)	NYCC (g O3/mi)
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	6.911	9.424	6.346	6.071	.	25.283
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	12.946	19.678	10.543	12.411	2.420	71.226
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	15.308	29.095	11.983	11.176	2.977	25.612
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	8.963	23.930	4.909	5.329	0.419	31.333
12	Winter	50	MTBE	09/19/91	P	15%MTBE	11.112	27.526	5.724	8.898	2.500	35.655
12	Winter	50	MTBE	12/21/91	P	15%MTBE	14.618	29.452	10.953	10.390	3.138	29.846
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	10.421	22.113	5.727	10.436	2.129	55.138
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	11.097	19.695	8.298	9.884	2.756	33.841
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	12.006	22.145	9.530	9.023	2.881	42.618
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	15.898	35.466	9.959	12.314	4.788	30.250
12	Winter	75	Base	03/09/92	N	WinterBase	8.610	11.650	8.044	7.391	0.624	26.843
12	Winter	75	Base	08/10/92	N	WinterBase	.	.	.	.	2.091	36.022
12	Winter	75	MTBE	03/25/92	P	15%MTBE	8.270	9.426	8.528	6.918	0.738	40.568
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	12.650	12.475	14.775	8.770	0.246	2.876
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	7.318	10.131	6.747	6.266	1.134	52.103
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	8.311	10.016	8.192	7.246	0.903	35.413

APPENDIX G

EVAPORATIVE EMISSIONS DATA

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
1	Summer	75	Base	01/21/92	M	SummerBase	0.289	0.595	.
1	Summer	75	MTBE	02/11/92	O	11%MTBE	0.387	0.685	.
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	0.347	0.735	.
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	0.364	0.568	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	.	.	.
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	0.342	0.766	.
1	Summer	95	Base	05/04/92	M	SummerBase	0.452	0.789	1.340
1	Summer	95	MTBE	07/10/92	O	11%MTBE	1.655	10.119	2.480
1	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.360	0.613	2.040
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	0.457	13.516	2.430
1	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	0.661	38.326	1.710
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	5.234	31.913	.
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	.	.	.
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	.	.	.
1	Winter	50	MTBE	09/09/91	P	15%MTBE	.	.	.
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE		.	.
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	.	.	.
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	.	.	.
1	Winter	75	Base	02/25/92	N	WinterBase	0.314	7.757	.
1	Winter	75	Base	08/10/92	N	WinterBase	1.262	0.493	.
1	Winter	75	MTBE	01/17/92	P	15%MTBE	0.290	0.498	.
1	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	0.883	0.726	.
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	0.281	0.629	.
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	0.307	0.448	.
2	Summer	75	Base	02/07/92	M	SummerBase	0.615	0.608	.
2	Summer	75	MTBE	02/11/92	O	11%MTBE	0.923	0.636	.
2	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.914	0.737	.
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	1.221	0.595	.
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1.026	0.770	.
2	Summer	95	Base	05/06/92	M	SummerBase	7.017	0.643	11.440
2	Summer	95	MTBE	07/11/92	O	11%MTBE	2.698	1.214	12.850
2	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	1.442	0.618	9.660
2	Summer	95	ETBE	10/08/92	Q	12.8%ETBE	.	.	.
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	1.628	1.151	11.560
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	.	.	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	4.132	1.331	7.430
2	Summer	95	EtOH/SB	09/10/92	U	5.7%EtOH/SB	.	.	.
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	.	.	.
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	.	.	.
2	Winter	50	MTBE	08/22/91	P	15%MTBE	.	.	.
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	.	.	.
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	.	.	.
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	.	.	.
2	Winter	75	Base	03/05/92	N	WinterBase	1.761	0.772	.
2	Winter	75	MTBE	02/21/92	P	15%MTBE	1.175	0.835	.
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	1.319	0.923	.
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	1.678	0.819	.
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	2.055	0.964	.
3	Summer	75	Base	02/26/92	M	SummerBase	1.031	8.112	.
3	Summer	75	MTBE	02/27/92	O	11%MTBE	14.719	13.389	.
3	Summer	75	MTBE	08/05/92	O	11%MTBE	1.081	8.540	.
3	Summer	75	ETBE	03/06/92	Q	12.8%ETBE	0.843	7.383	.
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1.574	11.265	.
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	0.980	10.419	.
3	Summer	95	Base	07/23/92	M	SummerBase	19.705	9.753	5.790
3	Summer	95	MTBE	07/15/92	O	11%MTBE	19.430	12.122	4.920
3	Summer	95	ETBE	07/21/92	Q	12.8%ETBE	6.351	10.394	8.430
3	Summer	95	EtOH	12/17/91	S	5.7%EtOH	.	.	19.060
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	15.235	13.939	42.940
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	.	.	.
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	.	.	.
3	Winter	50	MTBE	09/24/91	P	15%MTBE	.	.	.
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	.	.	.
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	.	.	.
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	.	.	.
3	Winter	75	Base	03/17/92	N	WinterBase	5.993	12.056	.
3	Winter	75	Base	10/12/92	N	WinterBase	21.158	16.399	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	1.951	12.761	.
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	1.215	11.063	.
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	6.005	14.234	.
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	4.422	14.424	.
4	Summer	75	Base	01/13/92	M	SummerBase	1.099	1.459	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
4	Summer	75	MTBE	02/10/92	O	11%MTBE	2.607	2.161	.
4	Summer	75	MTBE	07/29/92	O	11%MTBE	1.703	1.154	.
4	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.898	1.838	.
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.742	1.414	.
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.873	1.927	.
4	Summer	95	Base	05/22/92	M	SummerBase	9.831	2.599	.
4	Summer	95	Base	10/20/92	M	SummerBase	10.808	2.444	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	3.084	2.832	.
4	Summer	95	ETBE	06/04/92	Q	12.8%ETBE	1.641	1.868	.
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	3.014	2.592	.
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	6.470	2.611	.
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	.	.	.
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	.	.	.
4	Winter	50	MTBE	08/21/91	P	15%MTBE	.	.	.
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	.		.
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	.		
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	.	.	.
4	Winter	75	Base	02/04/92	N	WinterBase	1.270	1.787	.
4	Winter	75	MTBE	01/21/92	P	15%MTBE	1.174	2.296	.
4	Winter	75	MTBE	08/07/92	P	15%MTBE	1.254	0.736	.
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	1.099	1.376	.
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	0.910	1.697	.
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	1.108	1.891	.
5	Summer	75	Base	01/20/92	M	SummerBase	0.158	0.182	.
5	Summer	75	MTBE	02/10/92	O	11%MTBE	0.185	0.187	.
5	Summer	75	ETBE	02/17/92	Q	12.8%ETBE	0.206	0.211	.
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	0.109	0.146	.
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.126	0.196	.
5	Summer	95	Base	05/20/92	M	SummerBase	0.451	0.222	.
5	Summer	95	MTBE	07/08/92	O	11%MTBE	0.232	0.252	.
5	Summer	95	ETBE	06/05/92	Q	12.8%ETBE	0.329	0.290	.
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.276	0.273	.
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	.	.	.
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	0.630	0.231	.
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	.	.	.
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	.	.	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
5	Winter	50	MTBE	08/28/91	P	15%MTBE	.	.	.
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	.	.	.
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	.	.	.
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	.	.	.
5	Winter	75	Base	02/04/92	N	WinterBase	0.122	0.123	.
5	Winter	75	MTBE	01/05/92	P	15%MTBE	0.103	0.102	.
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.100	0.192	.
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.186	0.151	.
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	0.330	0.096	.
6	Summer	75	Base	02/04/92	M	SummerBase	0.397	0.237	.
6	Summer	75	MTBE	02/11/92	O	11%MTBE	0.662	0.356	.
6	Summer	75	ETBE	02/19/92	Q	12.8%ETBE	0.317	0.372	.
6	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.353	0.327	.
6	Summer	75	EtOH/SB	02/07/92	U	5.7%EtOH/SB	0.416	0.292	
6	Summer	95	Base	05/05/92	M	SummerBase	3.129	0.324	0.850
6	Summer	95	MTBE	07/24/92	O	11%MTBE	2.277	0.290	2.660
6	Summer	95	ETBE	05/12/92	Q	12.8%ETBE	0.850	0.378	1.620
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	1.633	0.343	1.060
6	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	4.548	1.284	1.330
6	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	.	.	.
6	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	.	.	.
6	Winter	50	MTBE	09/19/91	P	15%MTBE	.	.	.
6	Winter	50	ETBE	09/16/91	R	17.2%ETBE	.	.	.
6	Winter	50	EtOH	09/10/91	T	7.75%EtOH	.	.	.
6	Winter	50	EtOH/SB	09/05/91	V	7.75%EtOH/SB	.	.	.
6	Winter	75	Base	03/18/92	N	WinterBase	0.880	0.231	.
6	Winter	75	MTBE	12/02/91	P	15%MTBE	0.910	0.241	.
6	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1.254	0.274	.
6	Winter	75	EtOH	01/31/92	T	7.75%EtOH	0.200	0.358	.
6	Winter	75	EtOH/SB	02/17/92	V	7.75%EtOH/SB	2.459	0.310	.
7	Summer	75	Base	01/17/92	M	SummerBase	1.183	1.661	.
7	Summer	75	MTBE	02/17/92	O	11%MTBE	1.197	6.695	.
7	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	1.273	1.755	.
7	Summer	75	EtOH	01/30/92	S	5.7%EtOH	0.975	8.065	.
7	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	1.608	7.451	.
7	Summer	95	Base	09/10/92	M	SummerBase	2.382	1.597	.
7	Summer	95	MTBE	09/01/92	O	11%MTBE	3.151	2.122	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
7	Summer	95	ETBE	09/04/92	Q	12.8%ETBE	1.777	1.598	.
7	Summer	95	EtOH	08/27/92	S	5.7%EtOH	2.963	2.322	.
7	Summer	95	EtOH/SB	08/19/92	U	5.7%EtOH/SB	2.429	1.534	.
7	Summer	95	EtOH/SB	11/04/92	U	5.7%EtOH/SB	4.582	1.416	.
7	Winter	50	LowRVPBase	08/22/91	X	LowRVPWinterBase	.	.	.
7	Winter	50	LowRVPBase	12/06/91	X	LowRVPWinterBase	.	.	.
7	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	.	.	.
7	Winter	50	NewStockBase	10/29/92	Y	NewStockWinterBase	.	.	.
7	Winter	50	MTBE	08/19/91	P	15%MTBE	.	.	.
7	Winter	50	MTBE	12/04/91	P	15%MTBE	.	.	.
7	Winter	50	ETBE	08/29/91	R	17.2%ETBE	.	.	.
7	Winter	50	EtOH	08/27/91	T	7.75%EtOH	.	.	.
7	Winter	50	EtOH/SB	09/13/91	V	7.75%EtOH/SB	.	.	.
7	Winter	75	Base	02/05/92	N	WinterBase	2.479	22.008	.
7	Winter	75	MTBE	01/05/92	P	15%MTBE	1.652	12.369	.
7	Winter	75	ETBE	01/24/92	R	17.2%ETBE	2.535	12.524	.
7	Winter	75	EtOH	01/09/92	T	7.75%EtOH	2.754	16.545	
7	Winter	75	EtOH/SB	01/14/92	V	7.75%EtOH/SB	3.641	57.733	.
8	Summer	75	Base	01/13/92	M	SummerBase	0.519	0.338	.
8	Summer	75	MTBE	02/10/92	O	11%MTBE	0.460	0.383	.
8	Summer	75	ETBE	02/20/92	Q	12.8%ETBE	0.375	0.394	.
8	Summer	75	EtOH	01/29/92	S	5.7%EtOH	0.254	0.418	.
8	Summer	75	EtOH/SB	02/03/92	U	5.7%EtOH/SB	0.424	0.356	.
8	Summer	95	Base	05/19/92	M	SummerBase	0.443	0.414	.
8	Summer	95	MTBE	07/20/92	O	11%MTBE	0.292	0.421	.
8	Summer	95	ETBE	06/17/92	Q	12.8%ETBE	0.290	0.463	.
8	Summer	95	EtOH	06/01/92	S	5.7%EtOH	0.414	0.520	.
8	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	0.463	0.464	.
8	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	.	.	.
8	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	.	.	.
8	Winter	50	MTBE	08/16/91	P	15%MTBE	.	.	.
8	Winter	50	MTBE	12/04/91	P	15%MTBE	.	.	.
8	Winter	50	ETBE	08/21/91	R	17.2%ETBE	.	.	.
8	Winter	50	EtOH	09/17/91	T	7.75%EtOH	.	.	.
8	Winter	50	EtOH/SB	08/22/91	V	7.75%EtOH/SB	.	.	.
8	Winter	75	Base	02/05/92	N	WinterBase	0.331	0.395	.
8	Winter	75	MTBE	12/12/91	P	15%MTBE	0.217	0.228	.

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
8	Winter	75	ETBE	01/28/92	R	17.2%ETBE	0.501	0.374	.
8	Winter	75	EtOH	01/08/92	T	7.75%EtOH	0.373	0.430	.
8	Winter	75	EtOH/SB	01/21/92	V	7.75%EtOH/SB	1.069	3.845	.
8	Winter	75	EtOH/SB	08/04/92	V	7.75%EtOH/SB	0.240	0.271	.
9	Summer	75	Base	02/05/92	M	SummerBase	0.365	0.634	.
9	Summer	75	MTBE	02/27/92	O	11%MTBE	0.300	0.480	.
9	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	0.314	0.496	.
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	0.311	0.471	.
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.457	0.783	.
9	Summer	95	Base	04/29/92	M	SummerBase	0.608	0.713	3.130
9	Summer	95	MTBE	07/13/92	O	11%MTBE	1.383	7.043	2.890
9	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.647	4.541	2.320
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	1.033	1.465	2.400
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	1.739	35.767	3.610
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	.	.	.
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	.	.	.
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	.	.	.
9	Winter	50	MTBE	09/06/91	P	15%MTBE	.	.	.
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	.	.	.
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	.	.	.
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	.	.	.
9	Winter	75	Base	03/03/92	N	WinterBase	0.631	3.467	.
9	Winter	75	MTBE	11/27/91	P	15%MTBE	0.487	1.596	.
9	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	0.535	5.114	.
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	0.632	1.098	.
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	0.796	14.948	.
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	0.823	1.705	.
10	Summer	75	Base	01/13/92	M	SummerBase	4.981	15.723	.
10	Summer	75	MTBE	02/10/92	O	11%MTBE	6.896	16.639	.
10	Summer	75	MTBE	07/23/92	O	11%MTBE	.	.	.
10	Summer	75	ETBE	02/18/92	Q	12.8%ETBE	2.321	13.624	.
10	Summer	75	EtOH	01/22/92	S	5.7%EtOH	3.054	19.591	.
10	Summer	75	EtOH	07/23/92	S	5.7%EtOH	.	.	.
10	Summer	75	EtOH/SB	02/04/92	U	5.7%EtOH/SB	4.496	21.050	.
10	Summer	75	EtOH/SB	07/01/92	U	5.7%EtOH/SB	.	.	.
10	Summer	95	Base	05/13/92	M	SummerBase	19.766	18.912	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
10	Summer	95	MTBE	07/28/92	O	11%MTBE	22.577	20.696	.
10	Summer	95	ETBE	05/18/92	Q	12.8%ETBE	11.687	17.095	.
10	Summer	95	EtOH	05/22/92	S	5.7%EtOH	14.916	18.227	.
10	Summer	95	EtOH/SB	08/20/92	U	5.7%EtOH/SB	23.147	25.291	.
10	Winter	50	LowRVPBase	09/18/91	X	LowRVPWinterBase	.	.	.
10	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	.	.	.
10	Winter	50	MTBE	09/05/91	P	15%MTBE	.	.	.
10	Winter	50	ETBE	09/16/91	R	17.2%ETBE	.	.	.
10	Winter	50	EtOH	09/11/91	T	7.75%EtOH	.	.	.
10	Winter	50	EtOH/SB	09/23/91	V	7.75%EtOH/SB	.	.	.
10	Winter	75	Base	03/12/92	N	WinterBase	12.377	23.867	.
10	Winter	75	Base	08/10/92	N	WinterBase	.	.	.
10	Winter	75	MTBE	12/03/91	P	15%MTBE	11.607	26.372	.
10	Winter	75	ETBE	01/24/92	R	17.2%ETBE	5.928	24.385	.
10	Winter	75	EtOH	01/09/92	T	7.75%EtOH	10.677	33.347	
10	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	18.134	28.074	.
11	Summer	75	Base	02/17/92	M	SummerBase	0.382	1.485	
11	Summer	75	MTBE	02/28/92	O	11%MTBE	0.657	2.248	
11	Summer	75	ETBE	02/25/92	Q	12.8%ETBE	0.401	1.805	.
11	Summer	75	EtOH	03/13/92	S	5.7%EtOH	0.631	2.758	.
11	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	0.426	1.829	.
11	Summer	95	Base	05/20/92	M	SummerBase	3.156	1.942	.
11	Summer	95	MTBE	07/22/92	O	11%MTBE	3.009	1.596	.
11	Summer	95	ETBE	06/18/92	Q	12.8%ETBE	1.761	1.934	.
11	Summer	95	EtOH	06/03/92	S	5.7%EtOH	2.827	2.463	.
11	Summer	95	EtOH/SB	07/06/92	U	5.7%EtOH/SB	3.488	1.960	.
11	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	.	.	.
11	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	.	.	.
11	Winter	50	MTBE	09/13/91	P	15%MTBE	.	.	.
11	Winter	50	ETBE	08/28/91	R	17.2%ETBE	.	.	.
11	Winter	50	EtOH	08/30/91	T	7.75%EtOH	.	.	.
11	Winter	50	EtOH/SB	08/21/91	V	7.75%EtOH/SB	.	.	.
11	Winter	75	Base	03/10/92	N	WinterBase	1.167	1.669	.
11	Winter	75	MTBE	03/26/92	P	15%MTBE	1.123	1.759	.
11	Winter	75	ETBE	01/28/92	R	17.2%ETBE	0.956	1.476	.
11	Winter	75	ETBE	07/27/92	R	17.2%ETBE	.	.	.
11	Winter	75	EtOH	03/06/92	T	7.75%EtOH	1.893	2.413	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
11	Winter	75	EtOH/SB	03/25/92	V	7.75%EtOH/SB	1.942	12.364	.
11	Winter	75	EtOH/SB	08/12/92	V	7.75%EtOH/SB	1.366	1.369	.
12	Summer	75	Base	02/26/92	M	SummerBase	8.737	2.710	.
12	Summer	75	Base	05/06/92	M	SummerBase	.	.	.
12	Summer	75	MTBE	02/27/92	O	11%MTBE	9.245	5.644	.
12	Summer	75	ETBE	03/23/92	Q	12.8%ETBE	7.463	2.127	.
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	7.554	5.366	.
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	9.557	6.753	.
12	Summer	95	Base	04/27/92	M	SummerBase	16.206	4.186	4.000
12	Summer	95	MTBE	07/14/92	O	11%MTBE	19.060	6.108	9.760
12	Summer	95	ETBE	05/15/92	Q	12.8%ETBE	14.023	5.623	4.250
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	19.204	3.930	4.270
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	19.398	9.329	9.090
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	.	.	.
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	.	.	.
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	.	.	.
12	Winter	50	MTBE	09/19/91	P	15%MTBE	.	.	.
12	Winter	50	MTBE	12/21/91	P	15%MTBE	.	.	.
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	.	.	.
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	.	.	.
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	.	.	.
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	.	.	.
12	Winter	75	Base	03/09/92	N	WinterBase	15.511	11.132	.
12	Winter	75	Base	08/10/92	N	WinterBase	.	.	.
12	Winter	75	MTBE	03/25/92	P	15%MTBE	14.545	5.310	.
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	13.812	6.523	.
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	15.135	9.677	.
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	16.336	10.857	.
13	Summer	75	Base	03/11/92	M	SummerBase	0.308	0.254	.
13	Summer	75	MTBE	02/27/92	O	11%MTBE	0.180	0.221	.
13	Summer	75	ETBE	02/21/92	Q	12.8%ETBE	0.368	0.358	.
13	Summer	75	EtOH	03/09/92	S	5.7%EtOH	0.230	0.384	.
13	Summer	75	EtOH/SB	03/17/92	U	5.7%EtOH/SB	0.322	0.319	.
13	Summer	95	Base	05/11/92	M	SummerBase	1.101	0.472	.
13	Summer	95	MTBE	07/16/92	O	11%MTBE	0.613	0.736	.
13	Summer	95	ETBE	05/14/92	Q	12.8%ETBE	0.353	0.457	.
13	Summer	95	EtOH	06/02/92	S	5.7%EtOH	0.451	0.682	.

APPENDIX H

EVAPORATIVE ESTIMATED OZONE PRODUCTION

Evaporative Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g O3)	Hot Soak (g O3)	Running Loss (g O3)
1	Summer	75	Base	01/21/92	M	SummerBase	0.902	1.925	.
1	Summer	75	MTBE	02/11/92	O	11%MTBE	1.159	2.354	.
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	1.105	2.142	.
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1.175	2.330	.
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1.250	2.339	.
1	Summer	95	Base	05/04/92	M	SummerBase	1.081	3.103	5.394
1	Summer	95	MTBE	07/10/92	O	11%MTBE	2.774	12.931	5.874
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	.	.	12.344
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	1.313	21.376	11.555
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	1.637	63.605	0.076
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	6.683	52.855	.
1	Winter	75	Base	08/10/92	N	WinterBase	2.412	1.450	
1	Winter	75	MTBE	01/17/92	P	15%MTBE	0.809	1.452	
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	3.007	2.473	.
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	0.916	2.416	.
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	.	.	.
2	Summer	75	Base	02/07/92	M	SummerBase	1.447	2.332	.
2	Summer	75	MTBE	02/11/92	O	11%MTBE	1.830	1.871	.
2	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	1.973	2.095	
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	3.033	1.939	.
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	2.119	2.355	
2	Summer	95	Base	05/06/92	M	SummerBase	11.780	2.523	.
2	Summer	95	MTBE	07/11/92	O	11%MTBE	4.584	2.701	29.764
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	2.358	2.590	19.578
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	2.708	3.575	36.563
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	5.707	2.838	0.565
2	Winter	75	Base	03/05/92	N	WinterBase	2.962	2.168	.
2	Winter	75	MTBE	02/21/92	P	15%MTBE	2.803	2.588	.
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	2.516	2.599	.
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	3.430	2.263	.
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	3.566	2.879	.
3	Summer	75	Base	02/26/92	M	SummerBase	2.300	18.582	.
3	Summer	75	MTBE	08/05/92	O	11%MTBE	2.997	20.106	.
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	2.331	16.829	.
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	3.861	30.509	.
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	2.985	28.098	.
3	Summer	95	Base	07/23/92	M	SummerBase	30.216	21.267	12.915

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g 03)	Hot Soak (g 03)	Running Loss (g 03)
3	Summer	95	MTBE	07/15/92	O	11%MTBE	.	.	25.020
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	10.931	22.843	.
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	25.537	28.496	.
3	Winter	75	Base	10/12/92	N	WinterBase	34.204	33.762	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	3.781	28.883	.
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	2.270	22.241	.
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	10.441	35.754	.
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	7.501	32.561	.
4	Summer	75	Base	01/13/92	M	SummerBase	2.428	4.468	.
4	Summer	75	MTBE	07/29/92	O	11%MTBE	3.842	3.338	.
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	2.355	3.609	.
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	2.379	4.043	.
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	2.607	5.779	.
4	Summer	95	Base	05/22/92	M	SummerBase	16.451	9.760	.
4	Summer	95	Base	10/20/92	M	SummerBase	17.960	7.063	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	5.720	7.039	.
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	3.767	7.446	.
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	6.759	8.974	.
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	10.318	7.153	.
4	Winter	75	Base	02/04/92	N	WinterBase	2.960	4.908	.
4	Winter	75	MTBE	08/07/92	P	15%MTBE	2.833	2.063	.
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	2.765	3.790	.
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	2.357	4.717	.
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	3.318	5.225	.
5	Summer	75	Base	01/20/92	M	SummerBase	0.426	0.679	.
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	0.735	0.730	.
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	0.019	0.038	.
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	0.693	0.963	.
5	Summer	95	Base	05/20/92	M	SummerBase	0.693	0.661	.
5	Summer	95	MTBE	07/08/92	O	11%MTBE	0.454	0.552	.
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	0.640	0.904	.
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	0.827	0.528	.
5	Winter	75	MTBE	01/05/92	P	15%MTBE	0.331	0.593	.
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	0.521	0.685	.
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	0.552	0.693	.
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	0.808	0.297	.
6	Summer	95	Base	05/05/92	M	SummerBase	.	.	3.940

Evaporative Estimated Ozone Production

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g O3)	Hot Soak (g O3)	Running Loss (g O3)
6	Summer	95	MTBE	07/24/92	O	11%MTBE	.	.	3.942
6	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	.	.	7.567
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	.	.	6.803
9	Summer	75	Base	02/05/92	M	SummerBase	1.041	2.068	.
9	Summer	75	MTBE	02/27/92	O	11%MTBE	1.273	1.691	.
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	0.778	1.518	.
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	1.008	1.532	.
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	1.378	2.304	.
9	Summer	95	Base	04/29/92	M	SummerBase	1.277	2.142	10.016
9	Summer	95	MTBE	07/13/92	O	11%MTBE	2.115	9.924	7.922
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	1.291	4.843	7.432
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	2.070	3.411	9.524
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	2.711	58.742	9.173
9	Winter	75	Base	03/03/92	N	WinterBase	1.175	5.836	.
9	Winter	75	MTBE	11/27/91	P	15%MTBE	.	.	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1.038	7.796	.
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	1.262	2.199	.
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	1.424	22.501	.
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	1.428	3.103	.
12	Summer	75	Base	02/26/92	M	SummerBase	15.587	5.241	.
12	Summer	75	MTBE	02/27/92	O	11%MTBE	15.514	10.831	.
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	12.536	5.269	.
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	13.248	15.818	.
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	17.995	21.060	.
12	Summer	95	Base	04/27/92	M	SummerBase	26.774	9.638	7.855
12	Summer	95	MTBE	07/14/92	O	11%MTBE	31.551	11.123	20.268
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	22.061	12.692	.
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	35.821	10.299	16.984
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	31.573	17.816	.
12	Winter	75	Base	03/09/92	N	WinterBase	27.115	20.014	.
12	Winter	75	MTBE	03/25/92	P	15%MTBE	21.602	11.432	.
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	24.082	11.721	.
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	29.648	22.957	.
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	30.451	22.160	.

Evaporative Emissions Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Diurnal (g)	Hot Soak (g)	Running Loss (g)
13	Summer	95	EtOH/SB	08/21/92	U	5.7%EtOH/SB	2.795	1.033	.
13	Winter	50	LowRVPBase	09/12/91	X	LowRVPWinterBase	.	.	.
13	Winter	50	NewStockBase	08/25/92	Y	NewStockWinterBase	.	.	.
13	Winter	50	MTBE	08/28/91	P	15%MTBE	.	.	.
13	Winter	50	ETBE	09/20/91	R	17.2%ETBE	.	.	.
13	Winter	50	EtOH	09/10/91	T	7.75%EtOH	.	.	.
13	Winter	50	EtOH/SB	09/17/91	V	7.75%EtOH/SB	.	.	.
13	Winter	75	Base	03/02/92	N	WinterBase	1.731	0.521	.
13	Winter	75	Base	08/10/92	N	WinterBase	.	.	.
13	Winter	75	MTBE	01/17/92	P	15%MTBE	0.160	0.261	.
13	Winter	75	MTBE	08/07/92	P	15%MTBE	.	.	.
13	Winter	75	ETBE	02/25/92	R	17.2%ETBE	1.129	0.477	.
13	Winter	75	EtOH	03/03/92	T	7.75%EtOH	0.168	0.283	.
13	Winter	75	EtOH/SB	03/05/92	V	7.75%EtOH/SB	0.266	0.312	.

APPENDIX I

EXHAUST TOXICS DATA

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
1	Summer	75	Base	01/21/92	M	SummerBase	1,3-Butadiene	0.0017	0.0083	0.0000	0.0000	0.0000	0.0000
1	Summer	75	MTBE	02/11/92	O	11%MTBE	1,3-Butadiene	0.0016	0.0076	0.0000	0.0000	0.0000	0.0000
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	1,3-Butadiene	0.0015	0.0072	0.0000	0.0000	0.0000	0.0000
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1,3-Butadiene	0.0010	0.0046	0.0000	0.0000	0.0000	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	1,3-Butadiene	.	.	.	.	0.0002	0.0000
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0018	0.0078	0.0000	0.0005	0.0000	0.0000
1	Summer	95	Base	05/04/92	M	SummerBase	1,3-Butadiene	0.0033	0.0148	0.0000	0.0008	.	0.0000
1	Summer	95	MTBE	07/10/92	O	11%MTBE	1,3-Butadiene	0.0017	0.0080	0.0000	0.0000	.	0.0000
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	1,3-Butadiene	0.0021	0.0101	0.0000	0.0000	.	0.0000
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	1,3-Butadiene	0.0019	0.0090	0.0000	0.0000	.	0.0000
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0019	0.0084	0.0000	0.0004	.	0.0000
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	1,3-Butadiene	0.0010	0.0046	0.0000	0.0000	0.0000	0.0000
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	1,3-Butadiene	0.0026	0.0125	0.0000	0.0000	0.0000	0.0037
1	Winter	50	MTBE	09/09/91	P	15%MTBE	1,3-Butadiene	0.0010	0.0046	0.0000	0.0000	0.0000	0.0000
1	Winter	50	ETBE	12/04/91	R	17 2%ETBE	1,3-Butadiene	.	.	.	.	.	.
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1,3-Butadiene	0.0020	0.0096	0.0000	0.0000	0.0000	0.0000
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0009	0.0045	0.0000	0.0000	0.0000	0.0000
1	Winter	75	Base	02/25/92	N	WinterBase	1,3-Butadiene	0.0021	0.0103	0.0000	0.0000	0.0002	0.0022
1	Winter	75	Base	08/10/92	N	WinterBase	1,3-Butadiene	0.0019	0.0089	0.0000	0.0000	0.0000	0.0000
1	Winter	75	MTBE	01/17/92	P	15%MTBE	1,3-Butadiene	0.0014	0.0068	0.0000	0.0000	0.0000	0.0100
1	Winter	75	MTBE	08/07/92	P	15%MTBE	1,3-Butadiene	.	.	.	.	.	0.0000
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	1,3-Butadiene	0.0016	0.0076	0.0000	0.0000	0.0000	0.0000
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	1,3-Butadiene	0.0013	0.0061	0.0000	0.0000	0.0000	0.0000
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	1,3-Butadiene	.	.	.	.	.	.
2	Summer	75	Base	02/07/92	M	SummerBase	1,3-Butadiene	0.0095	0.0192	0.0058	0.0092	0.0026	0.0107
2	Summer	75	MTBE	02/11/92	O	11%MTBE	1,3-Butadiene	0.0083	0.0179	0.0046	0.0079	0.0045	0.0103
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	1,3-Butadiene	0.0108	0.0209	0.0074	0.0096	0.0046	0.0125
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0094	0.0204	0.0052	0.0090	0.0050	0.0120
2	Summer	95	Base	05/06/92	M	SummerBase	1,3-Butadiene	0.0123	0.0235	0.0075	0.0130	.	0.0276
2	Summer	95	MTBE	07/11/92	O	11%MTBE	1,3-Butadiene	0.0080	0.0159	0.0046	0.0086	.	0.0121
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	1,3-Butadiene	0.0084	0.0156	0.0057	0.0081	.	0.0108
2	Summer	95	ETBE	10/08/92	Q	12.7%ETBE	1,3-Butadiene	.	.	.	.	.	0.0035
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	1,3-Butadiene	0.0116	0.0230	0.0077	0.0104	.	0.0140
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	1,3-Butadiene	.	.	.	.	.	0.0155
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0086	0.0152	0.0060	0.0085	.	0.0132
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	1,3-Butadiene	0.0040	0.0124	0.0000	0.0052	0.0035	0.0148
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	1,3-Butadiene	0.0120	0.0267	0.0066	0.0111	0.0041	0.0163

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
2	Winter	50	MTBE	08/22/91	P	15%MTBE	1,3-Butadiene	0.0027	0.0092	0.0000	0.0030	0.0012	0.0050
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	1,3-Butadiene	0.0048	0.0114	0.0029	0.0032	0.0016	0.0070
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	1,3-Butadiene	0.0065	0.0189	0.0000	0.0094	0.0042	0.0103
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0065	0.0117	0.0049	0.0055	0.0016	0.0064
2	Winter	75	Base	03/05/92	N	WinterBase	1,3-Butadiene	0.0121	0.0204	0.0095	0.0108	0.0053	0.0158
2	Winter	75	MTBE	02/21/92	P	15%MTBE	1,3-Butadiene	0.0070	0.0141	0.0035	0.0082	0.0038	0.0103
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	1,3-Butadiene	0.0062	0.0159	0.0018	0.0072	0.0042	0.0101
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	1,3-Butadiene	0.0099	0.0207	0.0060	0.0090	0.0067	0.0161
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0108	0.0217	0.0066	0.0107	0.0064	0.0175
3	Summer	75	Base	02/26/92	M	SummerBase	1,3-Butadiene	0.0260	0.0320	0.0242	0.0248	0.0129	0.0575
3	Summer	75	MTBE	02/27/92	O	11%MTBE	1,3-Butadiene	0.0203	0.0257	0.0194	0.0180	0.0097	0.0527
3	Summer	75	MTBE	08/05/92	O	11%MTBE	1,3-Butadiene	0.0223	0.0292	0.0212	0.0191	0.0079	0.0434
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	1,3-Butadiene	0.0208	0.0255	0.0202	0.0185	0.0081	0.0462
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	1,3-Butadiene	0.0239	0.0332	0.0224	0.0199	0.0096	0.0470
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0249	0.0343	0.0230	0.0215	0.0087	0.0482
3	Summer	95	Base	07/23/92	M	SummerBase	1,3-Butadiene	0.0284	0.0341	0.0277	0.0252	.	0.0598
3	Summer	95	MTBE	07/15/92	O	11%MTBE	1,3-Butadiene	0.0254	0.0314	0.0256	0.0207	.	0.0583
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	1,3-Butadiene	0.0234	0.0277	0.0238	0 0192	.	0.0544
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0380	0.0437	0.0389	0.0322	.	0.0845
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	1,3-Butadiene	0.0066	0.0204	0.0000	0.0088	0.0080	0.0448
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	1,3-Butadiene	0.0250	0.0388	0.0233	0.0180	0.0074	0.0440
3	Winter	50	MTBE	09/24/91	P	15%MTBE	1,3-Butadiene	0.0155	0.0254	0.0131	0.0125	0.0045	0.0354
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	1,3-Butadiene	0.0132	0.0213	0.0138	0.0059	0.0012	0.0123
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1,3-Butadiene	0.0115	0.0280	0.0068	0.0079	0.0053	0.0388
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0129	0.0293	0.0091	0.0076	0.0020	0.0170
3	Winter	75	Base	03/17/92	N	WinterBase	1,3-Butadiene	0.0285	0.0349	0.0282	0.0240	0.0131	0.0501
3	Winter	75	MTBE	03/19/92	P	15%MTBE	1,3-Butadiene	0.0204	0.0249	0.0209	0.0160	0.0105	0.0489
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	1,3-Butadiene	0.0228	0.0280	0.0221	0.0203	0.0158	0.0493
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	1,3-Butadiene	0.0217	0.0331	0.0189	0.0183	0.0112	0.0484
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0233	0.0306	0.0217	0.0207	0.0097	0.0464
4	Summer	75	Base	01/13/92	M	SummerBase	1,3-Butadiene	0.0023	0.0072	0.0010	0.0012	0.0004	0.0000
4	Summer	75	MTBE	02/10/92	O	11%MTBE	1,3-Butadiene	0.0013	0.0062	0.0000	0.0000	0.0003	0.0000
4	Summer	75	MTBE	07/29/92	O	11%MTBE	1,3-Butadiene	0.0011	0.0044	0.0000	0.0006	0.0002	0.0000
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	1,3-Butadiene	0.0014	0.0056	0.0000	0.0009	0.0003	0.0000
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	1,3-Butadiene	0.0016	0.0067	0.0000	0.0010	0.0000	0.0000
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0015	0.0059	0.0000	0.0008	0.0000	0.0000
4	Summer	95	Base	05/22/92	M	SummerBase	1,3-Butadiene	0.0019	0.0078	0.0000	0.0009	.	0.0000

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
4	Summer	95	MTBE	07/09/92	O	11%MTBE	1,3-Butadiene	0.0011	0.0046	0.0000	0.0005	.	0.0000
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	1,3-Butadiene	0.0009	0.0042	0.0000	0.0000	.	0.0000
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	1,3-Butadiene	0.0021	0.0086	0.0000	0.0011	.	0.0000
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	1,3-Butadiene	.	.	.	.	.	0.0000
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0011	0.0042	0.0000	0.0008	.	0.0000
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	1,3-Butadiene	0.0011	0.0051	0.0000	0.0000	0.0000	0.0000
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	1,3-Butadiene	0.0020	0.0084	0.0000	0.0010	0.0002	0.0000
4	Winter	50	MTBE	08/21/91	P	15%MTBE	1,3-Butadiene	0.0007	0.0036	0.0000	0.0000	0.0000	0.0000
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	1,3-Butadiene	0.0010	0.0046	0.0000	0.0000	0.0000	0.0000
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	1,3-Butadiene	0.0019	0.0092	0.0000	0.0000	0.0000	0.0000
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0024	0.0082	0.0000	0.0025	0.0004	0.0020
4	Winter	75	Base	02/04/92	N	WinterBase	1,3-Butadiene	0.0010	0.0041	0.0000	0.0007	0.0000	0.0000
4	Winter	75	MTBE	01/21/92	P	15%MTBE	1,3-Butadiene	0.0015	0.0059	0.0000	0.0011	0.0008	0.0000
4	Winter	75	MTBE	08/07/92	P	15%MTBE	1,3-Butadiene	0.0013	0.0052	0.0000	0.0006	0.0005	0.0000
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	1,3-Butadiene	0.0017	0.0051	0.0009	0.0008	0.0002	0.0000
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	1,3-Butadiene	0.0018	0.0075	0.0000	0.0009	0.0003	0.0000
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0020	0.0082	0.0000	0.0011	0.0000	0.0000
5	Summer	75	Base	01/20/92	M	SummerBase	1,3-Butadiene	0.0011	0.0054	0.0000	0.0000	0.0000	0.0000
5	Summer	75	MTBE	02/10/92	O	11%MTBE	1,3-Butadiene	0.0012	0.0046	0.0000	0.0009	0.0000	0.0000
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	1,3-Butadiene	0.0010	0.0047	0.0000	0.0000	0.0000	0.0000
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	1,3-Butadiene	0.0011	0.0052	0.0000	0.0000	0.0003	0.0000
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0009	0.0041	0.0000	0.0000	0.0000	0.0000
5	Summer	95	Base	05/20/92	M	SummerBase	1,3-Butadiene	0.0008	0.0039	0.0000	0.0000	.	0.0000
5	Summer	95	MTBE	07/08/92	O	11%MTBE	1,3-Butadiene	0.0007	0.0033	0.0000	0.0000	.	0.0000
5	Summer	95	ETBE	06/05/92	Q	12.7%ETBE	1,3-Butadiene	0.0010	0.0051	0.0000	0.0000	.	0.0000
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	1,3-Butadiene	0.0010	0.0050	0.0000	0.0000	.	0.0000
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	1,3-Butadiene	.	.	.	.	.	0.0000
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0011	0.0051	0.0000	0.0000	.	0.0000
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	1,3-Butadiene	0.0012	0.0060	0.0000	0.0000	0.0000	0.0000
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	1,3-Butadiene	0.0017	0.0084	0.0000	0.0000	0.0000	0.0058
5	Winter	50	MTBE	08/28/91	P	15%MTBE	1,3-Butadiene	0.0012	0.0057	0.0000	0.0000	0.0000	0.0000
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	1,3-Butadiene	0.0007	0.0036	0.0000	0.0000	0.0000	0.0000
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	1,3-Butadiene	.	.	.	.	0.0000	0.0000
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0016	0.0076	0.0000	0.0000	0.0000	0.0000
5	Winter	75	Base	02/04/92	N	WinterBase	1,3-Butadiene	0.0009	0.0045	0.0000	0.0000	0.0000	0.0000
5	Winter	75	MTBE	01/05/92	P	15%MTBE	1,3-Butadiene	0.0011	0.0055	0.0000	0.0000	0.0000	0.0000
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	1,3-Butadiene	0.0011	0.0047	0.0000	0.0005	0.0000	0.0000

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	1,3-Butadiene	0.0008	0.0040	0.0000	0.0000	0.0003	0.0000
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0010	0.0047	0.0000	0.0000	0.0000	0.0000
9	Summer	75	Base	02/05/92	M	SummerBase	1,3-Butadiene	0.0017	0.0058	0.0000	0.0018	0.0009	0.0032
9	Summer	75	MTBE	02/27/92	O	11%MTBE	1,3-Butadiene	0.0018	0.0064	0.0000	0.0017	0.0000	0 0057
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	1,3-Butadiene	0.0014	0.0049	0.0000	0.0014	0.0005	0.0021
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	1,3-Butadiene	0.0017	0.0052	0.0000	0.0024	0.0006	0.0033
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	1,3-Butadiene	.	.	.	.	0.0008	0.0021
9	Summer	95	Base	04/29/92	M	SummerBase	1,3-Butadiene	0.0013	0.0046	0.0000	0.0013	.	0.0019
9	Summer	95	MTBE	07/13/92	O	11%MTBE	1,3-Butadiene	0.0016	0.0057	0.0000	0.0014	.	0.0043
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	1,3-Butadiene	0.0012	0.0045	0.0000	0.0012	.	0.0029
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	1,3-Butadiene	0.0018	0.0068	0.0000	0.0015	.	0.0021
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0016	0.0050	0.0000	0.0022	.	0.0021
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	1,3-Butadiene	0.0008	0.0038	0.0000	0.0000	0.0000	0.0000
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	1,3-Butadiene	0.0010	0.0036	0.0000	0.0010	0.0006	0.0000
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	1,3-Butadiene	0.0021	0.0085	0.0000	0.0014	0.0009	0.0026
9	Winter	50	MTBE	09/06/91	P	15%MTBE	1,3-Butadiene	0.0004	0.0021	0.0000	0.0000	0.0000	0.0000
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	1,3-Butadiene	0.0003	0.0016	0.0000	0.0000	0.0000	0.0000
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	1,3-Butadiene	0.0010	0.0047	0.0000	0.0000	0.0003	0.0000
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0009	0.0045	0.0000	0.0000	0.0006	0 0000
9	Winter	75	Base	03/03/92	N	WinterBase	1,3-Butadiene	0.0024	0.0081	0.0000	0.0028	0.0016	0.0029
9	Winter	75	MTBE	11/27/91	P	15%MTBE	1,3-Butadiene	.	.	.	.	.	.
9	Winter	75	MTBE	08/07/92	P	15%MTBE	1,3-Butadiene	.	.	.	.	0.0008	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1,3-Butadiene	0.0015	0.0054	0.0000	0.0014	0.0012	0.0044
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	1,3-Butadiene	0.0017	0.0058	0.0000	0.0020	0.0008	0.0028
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0019	0.0055	0.0000	0.0028	0.0043	0.0000
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0014	0.0050	0.0000	0.0013	0.0020	0.0021
12	Summer	75	Base	02/26/92	M	SummerBase	1,3-Butadiene	0.0145	0.0221	0.0127	0.0122	0.0013	0.0569
12	Summer	75	Base	05/06/92	M	SummerBase	1,3-Butadiene	.	.	.	.	0.0004	0.0367
12	Summer	75	MTBE	02/27/92	O	11%MTBE	1,3-Butadiene	0.0169	0.0243	0.0152	0.0147	0.0013	0.0598
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	1,3-Butadiene	0.0138	0.0194	0.0133	0.0106	0.0009	0.0546
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	1,3-Butadiene	0.0130	0.0158	0.0129	0.0110	0.0010	0.0552
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0144	0.0224	0.0122	0.0124	0.0015	0.0661
12	Summer	95	Base	04/27/92	M	SummerBase	1,3-Butadiene	0.0102	0.0196	0.0073	0.0086	.	0.0454
12	Summer	95	MTBE	07/14/92	O	11%MTBE	1,3-Butadiene	0.0118	0.0160	0.0109	0.0104	.	0.0352
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	1,3-Butadiene	0.0080	0.0117	0.0076	0.0061	.	0.0290
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	1,3-Butadiene	0.0151	0.0239	0.0130	0.0125	.	0.0483
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	1,3-Butadiene	0.0120	0.0172	0.0107	0.0104	.	0.0265

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	1,3-Butadiene	0.0247	0.0448	0.0166	0.0248	0.0077	0.0576
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	1,3-Butadiene	0.0284	0.0476	0.0234	0.0233	0.0086	0.0636
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	1,3-Butadiene	0.0117	0.0253	0.0084	0.0078	0.0007	0.0396
12	Winter	50	MTBE	09/19/91	P	15%MTBE	1,3-Butadiene	0.0171	0.0394	0.0112	0.0113	0.0037	0.0315
12	Winter	50	MTBE	12/21/91	P	15%MTBE	1,3-Butadiene	0.0208	0.0412	0.0142	0.0179	0.0108	0.0757
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	1,3-Butadiene	0.0104	0.0349	0.0000	0.0114	0.0050	0.0720
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	1,3-Butadiene	0.0219	0.0397	0.0171	0.0176	0.0064	0.0506
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0234	0.0412	0.0202	0.0161	0.0068	0.0562
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	1,3-Butadiene	0.0165	0.0346	0.0094	0.0161	0.0112	0.1151
12	Winter	75	Base	03/09/92	N	WinterBase	1,3-Butadiene	0.0157	0.0222	0.0148	0.0126	0.0009	0.0461
12	Winter	75	Base	08/10/92	N	WinterBase	1,3-Butadiene	.	.	.		0.0028	0.0533
12	Winter	75	MTBE	03/25/92	P	15%MTBE	1,3-Butadiene	0.0142	0.0176	0.0144	0.0112	0.0012	0.0509
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	1,3-Butadiene	0.0201	0.0244	0.0204	0.0164	.	.
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	1,3-Butadiene	0.0153	0.0225	0.0135	0.0131	0.0019	0.0758
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	1,3-Butadiene	0.0147	0.0194	0.0141	0.0124	0.0011	0.0530
1	Summer	75	Base	01/21/92	M	SummerBase	Acetaldehyde	0.0020	0.0045	0.0011	0.0018	0.0001	-0.0005
1	Summer	75	MTBE	02/11/92	O	11%MTBE	Acetaldehyde	0.0009	0.0012	0.0009	0.0008	-0.0001	0.0007
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	Acetaldehyde	0.0007	0.0037	-0.0001	-0.0001	0.0000	-0.0002
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Acetaldehyde	0.0036	0.0076	0.0016	0.0043	0.0007	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	Acetaldehyde	.	.	.	.	.	.
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Acetaldehyde	0.0023	0.0064	0.0010	0.0018	0.0001	0.0003
1	Summer	95	Base	05/04/92	M	SummerBase	Acetaldehyde	0.0014	0.0064	0.0000	0.0002	.	0.0001
1	Summer	95	MTBE	07/10/92	O	11%MTBE	Acetaldehyde	0.0015	0.0062	0.0001	0.0005	.	0.0002
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	Acetaldehyde	0.0029	0.0116	0.0002	0.0014	.	0.0004
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Acetaldehyde	0.0034	0.0141	0.0002	0.0016	.	0.0010
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	Acetaldehyde	0.0031	0.0125	0.0001	0.0016	.	0.0004
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	Acetaldehyde	0.0011	0.0044	0.0002	0.0002	0.0001	0.0004
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	Acetaldehyde	0.0022	0.0064	0.0010	0.0013	0.0001	0.0066
1	Winter	50	MTBE	09/09/91	P	15%MTBE	Acetaldehyde	0.0010	0.0041	0.0002	0.0002	0.0001	0.0005
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	Acetaldehyde	0.0020	0.0084	0.0001	0.0007	0.0001	0.0001
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Acetaldehyde	0.0027	0.0110	0.0002	0.0009	0.0001	0.0003
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Acetaldehyde	0.0023	0.0098	0.0002	0.0008	0.0001	0.0002
1	Winter	75	Base	02/25/92	N	WinterBase	Acetaldehyde	0.0006	0.0027	0.0000	0.0001	0.0001	0.0002
1	Winter	75	Base	08/10/92	N	WinterBase	Acetaldehyde	0.0019	0.0053	0.0010	0.0012	0.0001	0.0010
1	Winter	75	MTBE	01/17/92	P	15%MTBE	Acetaldehyde	0.0018	0.0043	0.0008	0.0017	0.0001	0.0018
1	Winter	75	MTBE	08/07/92	P	15%MTBE	Acetaldehyde	.	.	.	.	.	.
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Acetaldehyde	0.0037	0.0093	0.0021	0.0025	0.0001	0.0015

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Acetaldehyde	0.0025	0.0082	0.0008	0.0014	0.0000	0.0035
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	Acetaldehyde	0.0007	0.0027	0.0001	0.0003	.	
2	Summer	75	Base	02/07/92	M	SummerBase	Acetaldehyde	0.0073	0.0166	0.0040	0.0066	0.0029	0.0021
2	Summer	75	MTBE	02/11/92	O	11%MTBE	Acetaldehyde	0.0041	0.0080	0.0026	0.0040	0.0022	0.0035
2	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Acetaldehyde	0.0113	0.0199	0.0099	0.0074	0.0052	0.0121
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	Acetaldehyde	0.0135	0.0231	0.0104	0.0120	0.0046	0.0234
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Acetaldehyde	0.0112	0.0214	0.0076	0.0101	0.0038	0.0126
2	Summer	95	Base	05/06/92	M	SummerBase	Acetaldehyde	0.0068	0.0116	0.0051	0.0065	.	0.0253
2	Summer	95	MTBE	07/11/92	O	11%MTBE	Acetaldehyde	0.0065	0.0125	0.0044	0.0058	.	0.0080
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	Acetaldehyde	0.0177	0.0303	0.0146	0.0139	.	0.0326
2	Summer	95	ETBE	10/08/92	Q	12.7%ETBE	Acetaldehyde	.	.	.	.	.	0.0216
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Acetaldehyde	0.0158	0.0274	0.0122	0.0140	.	0.0264
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	Acetaldehyde	.	.	.	.	.	0.0213
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	Acetaldehyde	0.0138	0.0246	0.0098	0.0131	.	0.0255
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	Acetaldehyde	0.0056	0.0113	0.0028	0.0063	0.0031	0.0101
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	Acetaldehyde	0.0076	0.0140	0.0050	0.0077	0.0039	0.0122
2	Winter	50	MTBE	08/22/91	P	15%MTBE	Acetaldehyde	0.0081	0.0165	0.0053	0.0071	0.0040	0.0171
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	Acetaldehyde	0.0127	0.0244	0.0081	0.0125	0.0061	0.0246
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	Acetaldehyde	0.0127	0.0217	0.0101	0.0109	0.0063	0.0213
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Acetaldehyde	0.0141	0.0263	0.0107	0.0112	0.0060	0.0214
2	Winter	75	Base	03/05/92	N	WinterBase	Acetaldehyde	0.0079	0.0101	0.0083	0.0056	0.0021	0.0075
2	Winter	75	MTBE	02/21/92	P	15%MTBE	Acetaldehyde	0.0039	0.0073	0.0030	0.0028	0.0017	0.0038
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Acetaldehyde	0.0162	0.0303	0.0115	0.0142	0.0072	0.0212
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	Acetaldehyde	0.0123	0.0246	0.0085	0.0103	0.0065	0.0275
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	Acetaldehyde	0.0118	0.0222	0.0088	0.0097	0.0044	0.0249
3	Summer	75	Base	02/26/92	M	SummerBase	Acetaldehyde	0.0149	0.0120	0.0176	0.0120	0.0080	0.0255
3	Summer	75	MTBE	02/27/92	O	11%MTBE	Acetaldehyde	0.0159	0.0150	0.0160	0.0162	0.0092	0.0347
3	Summer	75	MTBE	08/05/92	O	11%MTBE	Acetaldehyde	0.0212	0.0281	0.0190	0.0201	0.0119	0.0395
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	Acetaldehyde	0.0304	0.0238	0.0359	0.0249	0.0092	0.0368
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Acetaldehyde	0.0297	0.0332	0.0254	0.0354	0.0185	0.0534
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	Acetaldehyde	0.0178	0.0187	0.0163	0.0199	0.0104	0.0413
3	Summer	95	Base	07/23/92	M	SummerBase	Acetaldehyde	0.0200	0.0197	0.0197	0.0206	.	0.0476
3	Summer	95	MTBE	07/15/92	O	11%MTBE	Acetaldehyde	0.0210	0.0218	0.0204	0.0217	.	0.0559
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	Acetaldehyde	0.0367	0.0370	0.0354	0.0390	.	0.0702
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	Acetaldehyde	0.0330	0.0352	0.0315	0.0340	.	0.0810
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	Acetaldehyde	0.0228	0.0235	0.0215	0.0245	0.0092	0 0380
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	Acetaldehyde	0.0214	0.0214	0.0215	0.0213	0.0135	0.0456

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
3	Winter	50	MTBE	09/24/91	P	15%MTBE	Acetaldehyde	0.0202	0.0195	0.0207	0.0197	0.0101	0.0453
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	Acetaldehyde	0.0331	0.0449	0.0293	0.0313	0.0010	0.1441
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Acetaldehyde	0.0299	0.0341	0.0288	0.0289	0.0154	0.0670
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Acetaldehyde	0.0301	0.0456	0.0249	0.0280	0.0080	0.0513
3	Winter	75	Base	03/17/92	N	WinterBase	Acetaldehyde	0.0127	0.0125	0.0123	0.0137	0.0085	0.0210
3	Winter	75	MTBE	03/19/92	P	15%MTBE	Acetaldehyde	0.0122	0.0126	0.0117	0.0131	0.0096	0.0465
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	Acetaldehyde	0.0246	0.0236	0.0239	0.0266	0.0193	0.0616
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Acetaldehyde	0.0302	0.0364	0.0271	0.0314	0.0209	0.0737
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	Acetaldehyde	0.0237	0.0257	0.0210	0.0273	0.0147	0.0616
4	Summer	75	Base	01/13/92	M	SummerBase	Acetaldehyde	0.0009	0.0032	0.0003	0.0004	0.0001	-0.0002
4	Summer	75	MTBE	02/10/92	O	11%MTBE	Acetaldehyde	0.0019	0.0041	0.0011	0.0017	0.0000	-0.0003
4	Summer	75	MTBE	07/29/92	O	11%MTBE	Acetaldehyde	0.0014	0.0029	0.0009	0.0012	0.0001	0.0009
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Acetaldehyde	0.0015	0.0056	0.0001	0.0009	0.0001	0.0006
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	Acetaldehyde	0.0028	0.0077	0.0011	0.0022	0.0002	-0.0001
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Acetaldehyde	0.0025	0.0069	0.0010	0.0020	0.0001	-0.0003
4	Summer	95	Base	05/22/92	M	SummerBase	Acetaldehyde	0.0013	0.0041	0.0002	0.0014	.	0.0007
4	Summer	95	MTBE	07/09/92	O	11%MTBE	Acetaldehyde	0.0011	0.0035	0.0005	0.0006	.	0.0005
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	Acetaldehyde	0.0020	0.0089	0.0001	0.0003	.	0.0002
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Acetaldehyde	0.0028	0.0118	0.0002	0.0007		0.0013
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Acetaldehyde	.	.	.	.	.	0.0014
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	Acetaldehyde	0.0016	0.0064	0.0003	0.0004	.	0.0004
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	Acetaldehyde	0.0008	0.0031	0.0001	0.0002	0.0000	0.0004
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	Acetaldehyde	0.0008	0.0033	0.0001	0.0002	0.0001	0.0000
4	Winter	50	MTBE	08/21/91	P	15%MTBE	Acetaldehyde	0.0041	0.0098	0.0022	0.0033	0.0015	0.0060
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	Acetaldehyde	0.0019	0.0086	0.0002	0.0002	0.0024	0.0177
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	Acetaldehyde	0.0016	0.0063	0.0003	0.0005	0.0002	0.0003
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	Acetaldehyde	0.0020	0.0092	0.0001	0.0003	0.0001	0.0001
4	Winter	75	Base	02/04/92	N	WinterBase	Acetaldehyde	0.0020	0.0037	0.0006	0.0036	0.0000	-0.0002
4	Winter	75	MTBE	01/21/92	P	15%MTBE	Acetaldehyde	0.0022	0.0044	0.0012	0.0024	0.0001	-0.0006
4	Winter	75	MTBE	08/07/92	P	15%MTBE	Acetaldehyde	0.0017	0.0047	0.0009	0.0011	0.0001	0.0009
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	Acetaldehyde	0.0031	0.0076	0.0018	0.0024	0.0001	-0.0006
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	Acetaldehyde	0.0015	0.0068	0.0000	0.0002	0.0001	0.0001
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	Acetaldehyde	0.0018	0.0079	0.0001	0.0002	0.0001	0.0004
5	Summer	75	Base	01/20/92	M	SummerBase	Acetaldehyde	0.0020	0.0045	0.0011	0.0018	0.0001	-0.0004
5	Summer	75	MTBE	02/10/92	O	11%MTBE	Acetaldehyde	0.0030	0.0043	0.0028	0.0024	0.0002	0.0000
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	Acetaldehyde	0.0008	0.0039	-0.0001	0.0001	0.0000	-0.0002
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	Acetaldehyde	0.0023	0.0069	0.0008	0.0017	0.0001	0.0003

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Acetaldehyde	0.0022	0.0055	0.0011	0.0018	0.0001	-0.0005
5	Summer	95	Base	05/20/92	M	SummerBase	Acetaldehyde	0.0008	0.0032	0.0001	0.0002	.	0.0003
5	Summer	95	MTBE	07/08/92	O	11%MTBE	Acetaldehyde	0.0007	0.0029	0.0001	0.0001	.	0.0002
5	Summer	95	ETBE	06/05/92	Q	12.7%ETBE	Acetaldehyde	0.0012	0.0054	0.0001	0.0002	.	0.0003
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Acetaldehyde	0.0023	0.0094	0.0004	0.0005		0.0015
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Acetaldehyde	.	.	.	.	.	0.0016
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	Acetaldehyde	0.0010	0.0048	-0.0001	0.0002	.	0.0008
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	Acetaldehyde	0.0010	0.0041	0.0002	0.0004	0.0001	0.0004
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	Acetaldehyde	0.0018	0.0052	0.0009	0.0011	0.0002	0.0087
5	Winter	50	MTBE	08/28/91	P	15%MTBE	Acetaldehyde	0.0010	0.0043	0.0002	0.0002	0.0003	0.0009
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Acetaldehyde	0.0023	0.0103	0.0002	0.0002	0.0001	0.0018
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	Acetaldehyde	0.0014	0.0062	0.0002	0.0001	0.0001	0.0010
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Acetaldehyde	0.0017	0.0075	0.0002	0.0001	0.0001	0.0010
5	Winter	75	Base	02/04/92	N	WinterBase	Acetaldehyde	0.0019	0.0046	0.0008	0.0020	0.0001	-0.0002
5	Winter	75	MTBE	01/05/92	P	15%MTBE	Acetaldehyde	0.0006	0.0022	0.0002	0.0001	0.0001	0.0003
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	Acetaldehyde	0.0028	0.0062	0.0017	0.0022	0.0001	-0.0008
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	Acetaldehyde	0.0012	0.0052	0.0001	0.0001	0.0002	0.0007
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	Acetaldehyde	0.0021	0.0069	0.0007	0.0012	0.0005	0.0019
9	Summer	75	Base	02/05/92	M	SummerBase	Acetaldehyde	0.0027	0.0073	0.0011	0.0023	0.0001	-0.0002
9	Summer	75	MTBE	02/27/92	O	11%MTBE	Acetaldehyde	0.0013	0.0045	0.0002	0.0008	0.0001	0.0017
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	Acetaldehyde	0.0018	0.0082	0.0000	0.0012	0.0001	0.0019
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	Acetaldehyde	0.0059	0.0180	0.0024	0.0034	0.0002	0.0026
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	Acetaldehyde	0.0017	0.0030	0.0013	0.0014	0.0001	-0.0003
9	Summer	95	Base	04/29/92	M	SummerBase	Acetaldehyde	0.0011	0.0044	0.0000	0.0007	.	0.0005
9	Summer	95	MTBE	07/13/92	O	11%MTBE	Acetaldehyde	0.0019	0.0062	0.0004	0.0013	.	0.0019
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	Acetaldehyde	0.0035	0.0139	0.0002	0.0019	.	0.0055
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	Acetaldehyde	0.0035	0.0128	0.0001	0.0029	.	0.0046
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	Acetaldehyde	0.0042	0.0137	0.0002	0.0047	.	0.0061
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	Acetaldehyde	.	.	.	.	0.0005	0.0011
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	Acetaldehyde	0.0013	0.0044	0.0004	0.0008	0.0004	0.0003
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	Acetaldehyde	0.0018	0.0081	0.0001	0.0004	0.0002	0.0008
9	Winter	50	MTBE	09/06/91	P	15%MTBE	Acetaldehyde	0.0013	0.0063	-0.0001	0.0000	0.0004	0.0036
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Acetaldehyde	0.0032	0.0136	0.0002	0.0009	0.0006	0.0040
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Acetaldehyde	0.0031	0.0128	0.0003	0.0011	0.0003	0.0030
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	Acetaldehyde	0.0029	0.0123	0.0003	0.0009	0.0002	0.0039
9	Winter	75	Base	03/03/92	N	WinterBase	Acetaldehyde	0.0012	0.0048	-0.0001	0.0010	-0.0001	0.0006
9	Winter	75	MTBE	11/27/91	P	15%MTBE	Acetaldehyde	0.0009	0.0038	0.0001	0.0005	0.0006	0.0002

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
9	Winter	75	MTBE	08/07/92	P	15%MTBE	Acetaldehyde	.	.	.	.	.	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Acetaldehyde	0.0021	0.0081	-0.0001	0.0017	0.0002	0.0007
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	Acetaldehyde	0.0022	0.0088	-0.0002	0.0019	0.0000	0.0070
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	Acetaldehyde	0.0038	0.0100	0.0004	0.0056	0.0004	0.0035
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	Acetaldehyde	0.0045	0.0148	0.0010	0.0034	0.0004	0.0084
12	Summer	75	Base	02/26/92	M	SummerBase	Acetaldehyde	0.0158	0.0220	0.0148	0.0131	0.0024	0.0575
12	Summer	75	Base	05/06/92	M	SummerBase	Acetaldehyde	.	.	.	.	0.0019	0.0733
12	Summer	75	MTBE	02/27/92	O	11%MTBE	Acetaldehyde	0.0236	0.0262	0.0265	0.0163	0.0045	0.0743
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	Acetaldehyde	0.0249	0.0210	0.0297	0.0188	0.0024	0.0821
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	Acetaldehyde	0.0213	0.0358	0.0165	0.0192	0.0029	0.0817
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	Acetaldehyde	0.0202	0.0255	0.0172	0.0219	0.0031	0.0852
12	Summer	95	Base	04/27/92	M	SummerBase	Acetaldehyde	0.0134	0.0146	0.0139	0.0115	.	0.0465
12	Summer	95	MTBE	07/14/92	O	11%MTBE	Acetaldehyde	0.0230	0.0205	0.0264	0.0187	.	0.0709
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	Acetaldehyde	0.0306	0.0279	0.0347	0.0250	.	0.1075
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	Acetaldehyde	0.0352	0.0331	0.0398	0.0282	.	0.1054
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	Acetaldehyde	0.0323	0.0299	0.0361	0.0267	.	0.1044
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	Acetaldehyde	0.0320	0.0210	0.0372	0.0304	0.0061	0.1545
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	Acetaldehyde	.	.	.	.	.	.
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	Acetaldehyde	0.0211	0.0170	0.0245	0.0180	0.0034	0.0775
12	Winter	50	MTBE	09/19/91	P	15%MTBE	Acetaldehyde	0.0185	0.0164	0.0186	0.0199	0.0040	0.0961
12	Winter	50	MTBE	12/21/91	P	15%MTBE	Acetaldehyde	0.0211	0.0211	0.0217	0.0200	0.0064	0.0624
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	Acetaldehyde	0.0419	0.0379	0.0450	0.0390	0.0088	0.1821
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	Acetaldehyde	0.0304	0.0308	0.0311	0.0288	0.0072	0.1019
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	Acetaldehyde	0.0336	0.0278	0.0360	0.0333	0.0081	0.1168
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	Acetaldehyde	0.0594	0.0486	0.0733	0.0412	0.0124	0.1310
12	Winter	75	Base	03/09/92	N	WinterBase	Acetaldehyde	0.0174	0.0124	0.0214	0.0138	0.0024	0.0556
12	Winter	75	Base	08/10/92	N	WinterBase	Acetaldehyde	.	.	.	.	0.0114	0.0820
12	Winter	75	MTBE	03/25/92	P	15%MTBE	Acetaldehyde	0.0159	0.0125	0.0189	0.0127	0.0021	0.0562
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Acetaldehyde	0.0501	0.0284	0.0720	0.0251	0.0059	0.1076
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	Acetaldehyde	0.0321	0.0355	0.0339	0.0261	0.0042	0.1123
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	Acetaldehyde	0.0289	0.0257	0.0333	0.0229	0.0032	0.0972
1	Summer	75	Base	01/21/92	M	SummerBase	Benzene	0.0084	0.0334	0.0010	0.0036	0.0028	0.0218
1	Summer	75	MTBE	02/11/92	O	11%MTBE	Benzene	0.0084	0.0320	0.0007	0.0051	0.0027	0.0118
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	Benzene	0.0064	0.0274	0.0000	0.0026	0.0048	0.0142
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Benzene	0.0076	0.0275	0.0012	0.0045	0.0042	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	Benzene	.	.	.	.	0.0039	0.0233
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Benzene	0.0094	0.0408	0.0000	0.0034	0.0040	0.0195

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
1	Summer	95	Base	05/04/92	M	SummerBase	Benzene	0.0140	0.0429	0.0000	0.0187	.	0.0208
1	Summer	95	MTBE	07/10/92	O	11%MTBE	Benzene	0.0110	0.0287	0.0008	0.0167	.	0.0247
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	Benzene	0.0104	0.0347	0.0000	0.0116	.	0.0220
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Benzene	0.0101	0.0291	0.0000	0.0146	.	0.0335
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	Benzene	0.0109	0.0285	0.0000	0.0183	.	0.0441
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	Benzene	0.0105	0.0407	0.0002	0.0070	0.0031	0.0087
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	Benzene	0.0147	0.0557	0.0000	0.0116	0.0046	0.0516
1	Winter	50	MTBE	09/09/91	P	15%MTBE	Benzene	0.0114	0.0397	0.0022	0.0072	0.0019	0.0072
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	Benzene	.	.	.	.	.	.
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Benzene	0.0128	0.0512	0.0002	0.0075	0.0028	0.0114
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Benzene	0.0109	0.0424	0.0003	0.0070	0.0039	0.0063
1	Winter	75	Base	02/25/92	N	WinterBase	Benzene	0.0153	0.0446	0.0004	0.0212	0.0027	0.0118
1	Winter	75	Base	08/10/92	N	WinterBase	Benzene	0.0104	0.0410	0.0006	0.0057	0.0035	0.0303
1	Winter	75	MTBE	01/17/92	P	15%MTBE	Benzene	0.0054	0.0226	0.0001	0.0024	0.0031	0.0339
1	Winter	75	MTBE	08/07/92	P	15%MTBE	Benzene	.	.	.	.	.	0.0182
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Benzene	0.0053	0.0217	-0.0004	0.0037	0.0022	0.0158
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Benzene	0.0075	0.0304	-0.0003	0.0050	0.0065	0.0215
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	Benzene	.	.	.	.	.	.
2	Summer	75	Base	02/07/92	M	SummerBase	Benzene	0.0849	0.1293	0.0733	0.0732	0.0494	0.1538
2	Summer	75	MTBE	02/11/92	O	11%MTBE	Benzene	0.0668	0.1104	0.0528	0.0604	0.0266	0.1187
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	Benzene	0.0828	0.1161	0.0692	0.0836	0.0289	0.1510
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Benzene	0.0816	0.1247	0.0683	0.0740	0.0221	0.1311
2	Summer	95	Base	05/06/92	M	SummerBase	Benzene	0.0758	0.1255	0.0568	0.0743	.	0.1709
2	Summer	95	MTBE	07/11/92	O	11%MTBE	Benzene	0.0730	0.1025	0.0624	0.0705	.	0.1215
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	Benzene	0.0531	0.0866	0.0406	0.0516	.	0.0713
2	Summer	95	ETBE	10/08/92	Q	12.7%ETBE	Benzene	.	.	.	.	.	0.1297
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Benzene	0.0744	0.1163	0.0597	0.0704	.	0.0716
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	Benzene	.	.	.	.	.	0.1702
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	Benzene	0.0574	0.0942	0.0432	0.0564	.	0.0926
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	Benzene	0.1034	0.2197	0.0663	0.0854	0.0392	0.1484
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	Benzene	0.1000	0.2381	0.0567	0.0775	0.0318	0.1351
2	Winter	50	MTBE	08/22/91	P	15%MTBE	Benzene	0.0594	0.1442	0.0336	0.0440	0.0254	0.0713
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	Benzene	0.0543	0.1169	0.0377	0.0384	0.0376	0.0883
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	Benzene	0.0755	0.1793	0.0400	0.0642	0.0414	0.0973
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Benzene	0.0660	0.1373	0.0393	0.0624	0.0302	0.0855
2	Winter	75	Base	03/05/92	N	WinterBase	Benzene	0.0693	0.1144	0.0566	0.0593	0.0222	0.1389
2	Winter	75	MTBE	02/21/92	P	15%MTBE	Benzene	0.0654	0.1105	0.0539	0.0530	0.0165	0.0646

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Benzene	0.0506	0.1034	0.0282	0.0528	0.0310	0.1206
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	Benzene	0.0786	0.1323	0.0650	0.0635	0.0452	0 1258
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	Benzene	0.0726	0.1168	0.0593	0.0644	0.0308	0.1331
3	Summer	75	Base	02/26/92	M	SummerBase	Benzene	0.1072	0.1337	0.0985	0.1037	0.0610	0 2203
3	Summer	75	MTBE	02/27/92	O	11%MTBE	Benzene	0.0781	0.1228	0.0658	0.0676	0.0348	0.1640
3	Summer	75	MTBE	08/05/92	O	11%MTBE	Benzene	0.0782	0.1165	0.0664	0.0716	0.0318	0.1329
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	Benzene	0.0700	0.0834	0.0663	0.0668	0.0277	0.1402
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Benzene	0.0773	0.1188	0.0683	0.0628	0.0364	0.1468
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	Benzene	0.0821	0.1220	0.0724	0.0703	0.0287	0.1392
3	Summer	95	Base	07/23/92	M	SummerBase	Benzene	0.1093	0.1447	0.0981	0.1039	.	0.2200
3	Summer	95	MTBE	07/15/92	O	11%MTBE	Benzene	0.1017	0.1368	0.0947	0.0885	.	0.2064
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	Benzene	0.0804	0.1074	0.0780	0.0647	.	0 1889
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	Benzene	0.1137	0 1400	0.1126	0.0960	.	0 2244
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	Benzene	0.0825	0 1567	0.0618	0.0658	0.0392	0 1964
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	Benzene	0.0963	0.1740	0.0778	0.0728	0.0344	0 1579
3	Winter	50	MTBE	09/24/91	P	15%MTBE	Benzene	0.0656	0.1270	0.0487	0.0514	0.0241	0 1564
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	Benzene	0.0645	0.1693	0 0359	0.0398	0.0231	0.1234
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Benzene	0.0604	0.1698	0.0157	0.0624	0.0214	0.1675
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Benzene	0.0782	0.2232	0.0323	0.0556	0.0196	0.1400
3	Winter	75	Base	03/17/92	N	WinterBase	Benzene	0.0938	0.1222	0.0883	0.0827	0.0515	0.1505
3	Winter	75	MTBE	03/19/92	P	15%MTBE	Benzene	0.0624	0.0865	0.0597	0.0495	0.0307	0.1158
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	Benzene	0.0640	0.0924	0.0566	0.0565	0.0515	0.1170
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Benzene	0.0687	0.1244	0.0520	0.0585	0.0405	0.1313
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	Benzene	0.0704	0.1283	0.0528	0.0601	0.0310	0.1195
4	Summer	75	Base	01/13/92	M	SummerBase	Benzene	0.0240	0.0610	0.0137	0.0155	0.0045	0.0269
4	Summer	75	MTBE	02/10/92	O	11%MTBE	Benzene	0.0155	0.0545	0.0041	0.0075	0.0041	0.0108
4	Summer	75	MTBE	07/29/92	O	11%MTBE	Benzene	0.0137	0.0443	0.0039	0.0088	0.0024	0.0356
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Benzene	0.0162	0.0571	0.0029	0.0104	0.0044	0.0222
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	Benzene	0.0184	0.0573	0.0029	0.0184	0.0036	0.0310
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Benzene	0.0166	0.0519	0.0026	0.0163	0.0026	0.0225
4	Summer	95	Base	05/22/92	M	SummerBase	Benzene	0.0196	0.0508	0.0114	0.0116	.	0.0379
4	Summer	95	MTBE	07/09/92	O	11%MTBE	Benzene	0.0149	0.0405	0.0060	0.0124	.	0.0227
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	Benzene	0.0117	0.0388	0.0029	0.0079	.	0.0077
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Benzene	0.0181	0.0559	0.0036	0.0169	.	0.0740
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Benzene	.	.	.	.	.	0.0258
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	Benzene	0.0149	0.0447	0.0048	0.0116	.	0.0190
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	Benzene	0.0221	0.0910	0.0022	0.0074	0.0026	0.0110

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	Benzene	0.0287	0.0993	0.0040	0.0220	0.0029	0.0362
4	Winter	50	MTBE	08/21/91	P	15%MTBE	Benzene	0.0225	0.0881	0.0043	0.0072	0.0025	0.0045
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	Benzene	0.0160	0.0657	0.0012	0.0063	0.0046	0.0108
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	Benzene	0.0430	0.1251	0.0207	0.0231	0.0054	0.0199
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	Benzene	0.0193	0.0597	0.0038	0.0183	0.0017	0.0185
4	Winter	75	Base	02/04/92	N	WinterBase	Benzene	0.0115	0.0348	0.0019	0.0122	0.0021	0.0237
4	Winter	75	MTBE	01/21/92	P	15%MTBE	Benzene	0.0146	0.0456	0.0030	0.0132	0.0047	0.0175
4	Winter	75	MTBE	08/07/92	P	15%MTBE	Benzene	0.0174	0.0402	0.0111	0.0120	0.0052	0.0215
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	Benzene	0.0115	0.0333	0.0051	0.0073	0.0022	0.0100
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	Benzene	0.0158	0.0465	0.0040	0.0151	0.0028	0.0351
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	Benzene	0.0171	0.0526	0.0061	0.0108	0.0026	0.0252
5	Summer	75	Base	01/20/92	M	SummerBase	Benzene	0.0120	0.0319	0.0041	0.0119	0.0045	0.0545
5	Summer	75	MTBE	02/10/92	O	11%MTBE	Benzene	0.0164	0.0346	0.0008	0.0319	0.0015	0.0224
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	Benzene	0.0074	0.0251	0.0028	0.0028	0.0020	0.0357
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	Benzene	0.0121	0.0316	0.0063	0.0081	0.0033	0.0285
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Benzene	0.0109	0.0324	0.0043	0.0072	0.0016	0.0341
5	Summer	95	Base	05/20/92	M	SummerBase	Benzene	0.0071	0.0234	0.0019	0.0046	.	0.0412
5	Summer	95	MTBE	07/08/92	O	11%MTBE	Benzene	0.0063	0.0241	0.0012	0.0027	.	0.0138
5	Summer	95	ETBE	06/05/92	Q	12.7%ETBE	Benzene	0.0059	0.0212	0.0015	0.0027	.	0.0085
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Benzene	0.0067	0.0250	0.0010	0.0037	.	0.0376
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Benzene	.	.	.	.	.	0.0260
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	Benzene	0.0049	0.0201	0.0000	0.0029	.	0.0285
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	Benzene	0.0197	0.0641	0.0082	0.0079	0.0014	0.0429
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	Benzene	0.0139	0.0519	0.0021	0.0073	0.0029	0.1415
5	Winter	50	MTBE	08/28/91	P	15%MTBE	Benzene	0.0142	0.0529	0.0028	0.0064	0.0012	0.0098
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Benzene	0.0097	0.0425	0.0007	0.0019	0.0025	0.0404
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	Benzene	.	.	.	.	0.0012	0.0345
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Benzene	0.0115	0.0434	0.0017	0.0057	0.0009	0.0069
5	Winter	75	Base	02/04/92	N	WinterBase	Benzene	0.0060	0.0234	0.0007	0.0028	0.0009	0.0268
5	Winter	75	MTBE	01/05/92	P	15%MTBE	Benzene	0.0096	0.0287	0.0049	0.0041	0.0029	0.0227
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	Benzene	0.0059	0.0224	0.0009	0.0028	0.0011	0.0163
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	Benzene	0.0067	0.0226	0.0030	0.0016	0.0036	0.0323
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	Benzene	0.0066	0.0234	0.0013	0.0040	0.0023	0.0342
9	Summer	75	Base	02/05/92	M	SummerBase	Benzene	0.0274	0.0537	0.0119	0.0367	0.0117	0.0695
9	Summer	75	MTBE	02/27/92	O	11%MTBE	Benzene	0.0277	0.0493	0.0162	0.0332	0.0125	0.0768
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	Benzene	0.0247	0.0413	0.0110	0.0383	0.0110	0.1203
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	Benzene	0.0283	0.0421	0.0142	0.0443	0.0146	0.1183

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	Benzene	.	.	.	.	0.0107	0.0897
9	Summer	95	Base	04/29/92	M	SummerBase	Benzene	0.0281	0.0472	0.0157	0.0370	.	0.1273
9	Summer	95	MTBE	07/13/92	O	11%MTBE	Benzene	0.0220	0.0408	0.0089	0.0326	.	0.1434
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	Benzene	0.0176	0.0356	0.0070	0.0240	.	0.1305
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	Benzene	0.0267	0.0380	0.0147	0.0410	.	0 1312
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	Benzene	0.0305	0.0403	0.0213	0.0406	.	0 1129
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	Benzene	0.0224	0.0705	0.0019	0.0247	0.0093	0.0560
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	Benzene	0.0217	0.0601	0.0046	0.0249	0.0120	0.0781
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	Benzene	0.0373	0.0943	0.0155	0.0355	0.0139	0 1311
9	Winter	50	MTBE	09/06/91	P	15%MTBE	Benzene	0.0212	0.0684	0.0016	0.0225	0.0089	0 0722
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Benzene	0.0178	0.0605	0.0007	0.0177	0.0077	0 0548
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Benzene	0.0256	0.0819	0.0019	0.0277	0.0124	0.0893
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	Benzene	0.0191	0.0683	0.0008	0.0165	0.0082	0.0737
9	Winter	75	Base	03/03/92	N	WinterBase	Benzene	0.0374	0.0566	0.0256	0.0451	0.0166	0.1047
9	Winter	75	MTBE	11/27/91	P	15%MTBE	Benzene	.	.	.	.	.	
9	Winter	75	MTBE	08/07/92	P	15%MTBE	Benzene		.	.	.	0.0090	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Benzene	0.0182	0.0334	0.0075	0.0270	0.0105	0 0730
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	Benzene	0.0328	0 0499	0.0223	0.0395	0.0149	0 1239
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	Benzene	0.0291	0.0391	0.0185	0.0416	0.0397	0.1093
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	Benzene	0.0218	0.0395	0.0111	0.0286	0.0274	0.1321
12	Summer	75	Base	02/26/92	M	SummerBase	Benzene	0.0751	0.1074	0.0693	0.0615	0.0110	0.2678
12	Summer	75	Base	05/06/92	M	SummerBase	Benzene	.	.	.	.	0.0029	0.2101
12	Summer	75	MTBE	02/27/92	O	11%MTBE	Benzene	0.0883	0.1183	0.0852	0.0715	0.0146	0.3701
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	Benzene	0.0615	0.0819	0.0579	0.0531	0.0079	0.2880
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	Benzene	0.0834	0.1006	0.0845	0.0683	0.0119	0.3438
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	Benzene	0.0811	0.1129	0.0768	0.0650	0.0128	0.3295
12	Summer	95	Base	04/27/92	M	SummerBase	Benzene	0.0445	0.0767	0.0315	0.0447	.	0.2096
12	Summer	95	MTBE	07/14/92	O	11%MTBE	Benzene	0.0546	0.0690	0.0520	0.0485	.	0.1749
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	Benzene	0.0371	0.0514	0.0340	0.0321	.	0.1627
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	Benzene	0.0570	0.0697	0.0560	0.0493	.	0.1938
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	Benzene	0.0572	0.0731	0.0545	0.0501	.	0.1443
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	Benzene	0.1172	0.1940	0.0917	0.1074	0.0262	0.3817
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	Benzene	0.1846	0.3396	0.1551	0.1234	0.0628	0.2922
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	Benzene	0.0837	0.2221	0.0475	0.0474	0.0055	0.2315
12	Winter	50	MTBE	09/19/91	P	15%MTBE	Benzene	0.1183	0.2490	0.0814	0.0894	0.0401	0.2608
12	Winter	50	MTBE	12/21/91	P	15%MTBE	Benzene	0.1644	0.2953	0.1434	0.1055	0.0408	0.2780
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	Benzene	0.0927	0.1766	0.0652	0.0813	0.0251	0.2925

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	Benzene	0.1307	0.2258	0.1068	0.1038	0.0431	0.3101
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	Benzene	0.1376	0.2334	0.1222	0.0944	0.0458	0.3623
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	Benzene	0.1683	0.3476	0.1251	0.1143	0.0493	0.5550
12	Winter	75	Base	03/09/92	N	WinterBase	Benzene	0.0748	0.0985	0.0739	0.0588	0.0085	0.1796
12	Winter	75	Base	08/10/92	N	WinterBase	Benzene	.	.	.	.	0.0169	0.2589
12	Winter	75	MTBE	03/25/92	P	15%MTBE	Benzene	0.0612	0.0799	0.0595	0.0503	0.0082	0.2434
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Benzene	0.0875	0.1002	0.0947	0.0643	.	.
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	Benzene	0.0669	0.0930	0.0627	0.0553	0.0148	0.3508
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	Benzene	0.0771	0.0967	0.0777	0.0613	0.0110	0.2600
1	Summer	75	Base	01/21/92	M	SummerBase	Formaldehyde	0.0025	0.0080	0.0013	0.0008	-0.0001	0.0014
1	Summer	75	MTBE	02/11/92	O	11%MTBE	Formaldehyde	0.0011	0.0028	0.0009	0.0004	0.0000	0.0005
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	Formaldehyde	0.0028	0.0062	0.0026	0.0004	0.0001	0.0007
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Formaldehyde	0.0042	0.0123	0.0021	0.0022	0.0001	.
1	Summer	75	EtOH	05/22/92	S	5.7%EtOH	Formaldehyde	.		.	.	.	.
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Formaldehyde	0.0021	0.0070	0.0010	0.0005	0.0000	0.0003
1	Summer	95	Base	05/04/92	M	SummerBase	Formaldehyde	0.0049	0.0194	0.0015	0.0005	.	0.0013
1	Summer	95	MTBE	07/10/92	O	11%MTBE	Formaldehyde	0.0060	0.0209	0.0027	0.0008	.	0.0016
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	Formaldehyde	0.0081	0.0332	0.0020	0.0008	.	0.0036
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Formaldehyde	0.0062	0.0248	0.0018	0.0006	.	0.0003
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	Formaldehyde	0.0054	0.0215	0.0016	0.0004		0.0008
1	Winter	50	LowRVPBase	09/06/91	X	LowRVPWinterBase	Formaldehyde	0.0028	0.0088	0.0018	0.0003	-0.0001	-0.0001
1	Winter	50	NewStockBase	08/12/92	Y	NewStockWinterBase	Formaldehyde	0.0042	0.0140	0.0022	0.0005	0.0002	0.0058
1	Winter	50	MTBE	09/09/91	P	15%MTBE	Formaldehyde	0.0030	0.0113	0.0013	-0.0001	0.0001	0.0016
1	Winter	50	ETBE	12/04/91	R	17.2%ETBE	Formaldehyde	0.0026	0.0060	0.0023	0.0005	0.0002	0.0010
1	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Formaldehyde	0.0030	0.0096	0.0016	0.0007	0.0000	0.0017
1	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Formaldehyde	0.0023	0.0089	0.0010	-0.0001	0.0000	0.0000
1	Winter	75	Base	02/25/92	N	WinterBase	Formaldehyde	0.0039	0.0078	0.0040	0.0007	0.0002	0.0033
1	Winter	75	Base	08/10/92	N	WinterBase	Formaldehyde	0.0038	0.0144	0.0013	0.0006	0.0001	0.0005
1	Winter	75	MTBE	01/17/92	P	15%MTBE	Formaldehyde	0.0026	0.0089	0.0013	0.0003	-0.0001	0.0263
1	Winter	75	MTBE	08/07/92	P	15%MTBE	Formaldehyde	.	.	.	.	.	.
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Formaldehyde	0.0038	0.0108	0.0025	0.0010	0.0003	0.0047
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Formaldehyde	0.0027	0.0083	0.0017	0.0004	0.0000	0.0006
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	Formaldehyde	0.0016	0.0054	0.0007	0.0003	.	
2	Summer	75	Base	02/07/92	M	SummerBase	Formaldehyde	0.0116	0.0219	0.0079	0.0107	0.0067	0.0113
2	Summer	75	MTBE	02/11/92	O	11%MTBE	Formaldehyde	0.0116	0.0233	0.0079	0.0097	0.0076	0.0204
2	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Formaldehyde	0.0149	0.0260	0.0134	0.0092	0.0065	0.0141
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	Formaldehyde	0.0166	0.0286	0.0137	0.0131	0.0060	0.0202

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Formaldehyde	0.0126	0.0250	0.0085	0.0109	0.0053	0.0137
2	Summer	95	Base	05/06/92	M	SummerBase	Formaldehyde	0.0221	0.0407	0.0156	0.0202	.	0.0826
2	Summer	95	MTBE	07/11/92	O	11%MTBE	Formaldehyde	0.0263	0.0520	0.0180	0.0226	.	0.0339
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	Formaldehyde	0.0307	0.0573	0.0236	0.0241	.	0.0531
2	Summer	95	ETBE	10/08/92	Q	12.7%ETBE	Formaldehyde	.	.	.		.	0.0250
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Formaldehyde	0.0266	0.0536	0.0183	0.0221	.	0.0382
2	Summer	95	EtOH	10/06/92	S	5.7%EtOH	Formaldehyde	.	.	.	.	.	0.0226
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	Formaldehyde	0.0227	0.0451	0.0155	0.0196	.	0.0371
2	Winter	50	LowRVPBase	09/05/91	X	LowRVPWinterBase	Formaldehyde	0.0149	0.0336	0.0067	0.0161	0.0052	0.0274
2	Winter	50	NewStockBase	08/13/92	Y	NewStockWinterBase	Formaldehyde	0.0264	0.0521	0.0166	0.0255	0.0086	0.0446
2	Winter	50	MTBE	08/22/91	P	15%MTBE	Formaldehyde	0.0558	0.1388	0.0334	0.0354	0.0161	0.1320
2	Winter	50	ETBE	08/29/91	R	17.2%ETBE	Formaldehyde	0.0186	0.0412	0.0106	0.0167	0.0042	0.0324
2	Winter	50	EtOH	09/12/91	T	7.75%EtOH	Formaldehyde	0.0169	0.0337	0.0116	0.0141	0.0057	0.0266
2	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Formaldehyde	0.0171	0.0200	0.0176	0.0140	0.0045	0.0245
2	Winter	75	Base	03/05/92	N	WinterBase	Formaldehyde	0.0298	0.0374	0.0323	0.0191	0.0058	0.0201
2	Winter	75	MTBE	02/21/92	P	15%MTBE	Formaldehyde	0.0159	0.0251	0.0146	0.0113	0.0067	0.0217
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Formaldehyde	0.0147	0.0316	0.0095	0.0116	0.0059	0.0129
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	Formaldehyde	0.0143	0.0304	0.0098	0.0108	0.0077	0.0268
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	Formaldehyde	0.0152	0.0311	0.0107	0.0115	0.0053	0.0251
3	Summer	75	Base	02/26/92	M	SummerBase	Formaldehyde	0.0794	0.0563	0.1007	0.0567	0.0350	0.1244
3	Summer	75	MTBE	02/27/92	O	11%MTBE	Formaldehyde	0.0804	0.0756	0.0836	0.0779	0.0405	0.1520
3	Summer	75	MTBE	08/05/92	O	11%MTBE	Formaldehyde	0.1086	0.1500	0.0994	0.0949	0.0554	0.1853
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	Formaldehyde	0.0943	0.0613	0.1231	0.0649	0.0462	0.1748
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Formaldehyde	0.0763	0.0726	0.0777	0.0763	0.0463	0.1725
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	Formaldehyde	0.0600	0.0562	0.0620	0.0590	0.0265	0.1338
3	Summer	95	Base	07/23/92	M	SummerBase	Formaldehyde	0.0913	0.0907	0.0931	0.0884	.	0.2091
3	Summer	95	MTBE	07/15/92	O	11%MTBE	Formaldehyde	0.1216	0.1270	0.1210	0.1188	.	0.2976
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	Formaldehyde	0.1084	0.1031	0.1125	0.1046	.	0.2289
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	Formaldehyde	0.1007	0.1013	0.1019	0.0981	.	0.2384
3	Winter	50	LowRVPBase	09/04/91	X	LowRVPWinterBase	Formaldehyde	0.0725	0.0894	0.0657	0.0725	0.0319	0.1184
3	Winter	50	NewStockBase	08/14/92	Y	NewStockWinterBase	Formaldehyde	0.1019	0.1030	0.1044	0.0963	0.0531	0.2079
3	Winter	50	MTBE	09/24/91	P	15%MTBE	Formaldehyde	0.0908	0.0938	0.0923	0.0858	0.0437	0.2035
3	Winter	50	ETBE	09/09/91	R	17.2%ETBE	Formaldehyde	0.0849	0.1018	0.0841	0.0737	0.0014	0.3191
3	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Formaldehyde	0.0791	0.0825	0.0831	0.0688	0.0344	0.1766
3	Winter	50	EtOH/SB	09/10/91	V	7.75%EtOH/SB	Formaldehyde	0.0834	0.1127	0.0785	0.0703	0.0182	0.1552
3	Winter	75	Base	03/17/92	N	WinterBase	Formaldehyde	0.0588	0.0695	0.0547	0.0585	0.0372	0.0925
3	Winter	75	MTBE	03/19/92	P	15%MTBE	Formaldehyde	0.0635	0.0739	0.0588	0.0648	0.0437	0.1991

txhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	Formaldehyde	0.0639	0.0776	0.0563	0.0681	0.0503	0.1749
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Formaldehyde	0.0676	0.0681	0.0692	0.0641	0.0503	0.1992
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	Formaldehyde	0.0618	0.0591	0.0642	0.0593	0.0335	0.1602
4	Summer	75	Base	01/13/92	M	SummerBase	Formaldehyde	0.0018	0.0078	0.0000	0.0007	0.0001	0.0011
4	Summer	75	MTBE	02/10/92	O	11%MTBE	Formaldehyde	0.0019	0.0077	0.0004	0.0004	0.0000	0.0019
4	Summer	75	MTBE	07/29/92	O	11%MTBE	Formaldehyde	0.0019	0.0070	0.0006	0.0004	0.0001	0.0029
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Formaldehyde	0.0019	0.0051	0.0011	0.0012	0.0001	0.0004
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	Formaldehyde	0.0018	0.0074	0.0003	0.0003	-0.0001	0.0006
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Formaldehyde	0.0016	0.0056	0.0005	0.0006	0.0000	0.0006
4	Summer	95	Base	05/22/92	M	SummerBase	Formaldehyde	0.0037	0.0117	0.0008	0.0031	.	0.0006
4	Summer	95	MTBE	07/09/92	O	11%MTBE	Formaldehyde	0.0028	0.0112	0.0005	0.0007	.	0.0018
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	Formaldehyde	0.0026	0.0104	0.0006	0.0004	.	0.0022
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Formaldehyde	0.0035	0.0143	0.0009	0.0004	.	0.0019
4	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Formaldehyde	.	.	.	.		0.0010
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	Formaldehyde	0.0020	0.0087	0.0003	0.0003	.	0.0024
4	Winter	50	LowRVPBase	08/28/91	X	LowRVPWinterBase	Formaldehyde	0.0018	0.0061	0.0006	0.0007	0.0000	0.0036
4	Winter	50	NewStockBase	08/17/92	Y	NewStockWinterBase	Formaldehyde	0.0020	0.0087	0.0003	0.0002	0.0001	0.0002
4	Winter	50	MTBE	08/21/91	P	15%MTBE	Formaldehyde	0.2466	0.8138	0.0308	0.2254	0.0205	0.0861
4	Winter	50	ETBE	09/04/91	R	17.2%ETBE	Formaldehyde	0.0023	0.0056	0.0006	0.0030	0.0077	0.0396
4	Winter	50	EtOH	08/26/91	T	7.75%EtOH	Formaldehyde	0.0029	0.0113	0.0007	0.0008	0.0000	0.0007
4	Winter	50	EtOH/SB	08/29/91	V	7.75%EtOH/SB	Formaldehyde	0.0035	0.0112	0.0016	0.0012	0.0003	0.0023
4	Winter	75	Base	02/04/92	N	WinterBase	Formaldehyde	0.0021	0.0071	0.0004	0.0017	-0.0001	0.0003
4	Winter	75	MTBE	01/21/92	P	15%MTBE	Formaldehyde	0.0016	0.0076	0.0000	0.0002	-0.0001	0.0001
4	Winter	75	MTBE	08/07/92	P	15%MTBE	Formaldehyde	0.0025	0.0102	0.0004	0.0004	0.0001	0.0042
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	Formaldehyde	0.0015	0.0056	0.0004	0.0005	0.0000	0.0011
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	Formaldehyde	0.0016	0.0073	0.0002	0.0000	0.0002	0.0089
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	Formaldehyde	0.0020	0.0078	0.0005	0.0002	0.0003	0.0042
5	Summer	75	Base	01/20/92	M	SummerBase	Formaldehyde	0.0014	0.0059	0.0002	0.0002	0.0000	0.0001
5	Summer	75	MTBE	02/10/92	O	11%MTBE	Formaldehyde	0.0015	0.0057	0.0003	0.0005	0.0000	0.0000
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	Formaldehyde	0.0020	0.0053	0.0015	0.0005	0.0000	0.0007
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	Formaldehyde	0.0013	0.0057	0.0001	0.0004	0.0001	0.0003
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Formaldehyde	0.0009	0.0040	0.0000	0.0003	0.0000	-0.0001
5	Summer	95	Base	05/20/92	M	SummerBase	Formaldehyde	0.0019	0.0078	0.0003	0.0004	.	0.0011
5	Summer	95	MTBE	07/08/92	O	11%MTBE	Formaldehyde	0.0023	0.0088	0.0006	0.0006	.	0.0010
5	Summer	95	ETBE	06/05/92	Q	12.7%ETBE	Formaldehyde	0.0023	0.0088	0.0007	0.0004	.	0.0024
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Formaldehyde	0.0032	0.0124	0.0010	0.0005	.	0.0014
5	Summer	95	EtOH	10/09/92	S	5.7%EtOH	Formaldehyde	.	.	.	.	.	0.0015

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	Formaldehyde	0.0020	0.0080	0.0004	0.0003	.	0.0007
5	Winter	50	LowRVPBase	08/26/91	X	LowRVPWinterBase	Formaldehyde	0.0035	0.0109	0.0016	0.0014	0.0005	0.0032
5	Winter	50	NewStockBase	08/11/92	Y	NewStockWinterBase	Formaldehyde	0.0020	0.0077	0.0006	0.0003	0.0001	0.0115
5	Winter	50	MTBE	08/28/91	P	15%MTBE	Formaldehyde	0.0034	0.0108	0.0015	0.0014	0.0004	0.0057
5	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Formaldehyde	0.0023	0.0077	0.0011	0.0007	0.0003	0.0016
5	Winter	50	EtOH	09/04/91	T	7.75%EtOH	Formaldehyde	0.0023	0.0061	0.0010	0.0020	0.0009	0.0021
5	Winter	50	EtOH/SB	09/06/91	V	7.75%EtOH/SB	Formaldehyde	0.0010	0.0049	0.0000	0.0001	-0.0001	0.0001
5	Winter	75	Base	02/04/92	N	WinterBase	Formaldehyde	0.0014	0.0060	0.0002	0.0001	0.0000	-0.0002
5	Winter	75	MTBE	01/05/92	P	15%MTBE	Formaldehyde	0.0029	0.0084	0.0019	0.0006	0.0001	0.0023
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	Formaldehyde	0.0019	0.0057	0.0010	0.0009	0.0002	0.0005
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	Formaldehyde	0.0022	0.0064	0.0014	0.0006	0.0001	0.0011
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	Formaldehyde	0.0021	0.0062	0.0012	0.0006	0.0002	0.0011
9	Summer	75	Base	02/05/92	M	SummerBase	Formaldehyde	0.0032	0.0120	0.0009	0.0010	0.0007	0.0002
9	Summer	75	MTBE	02/27/92	O	11%MTBE	Formaldehyde	0.0032	0.0133	0.0005	0.0008	0.0004	0.0003
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	Formaldehyde	0.0036	0.0099	0.0020	0.0017	0.0004	0.0021
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	Formaldehyde	0.0021	0.0099	-0.0001	0.0003	0.0001	0.0005
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	Formaldehyde	0.0015	0.0038	0.0011	0.0004	0.0003	0.0011
9	Summer	95	Base	04/29/92	M	SummerBase	Formaldehyde	0.0022	0.0096	0.0002	0.0006	.	0.0007
9	Summer	95	MTBE	07/13/92	O	11%MTBE	Formaldehyde	0.0044	0.0185	0.0005	0.0011	.	0.0027
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	Formaldehyde	0.0041	0.0174	0.0005	0.0007	.	0.0015
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	Formaldehyde	0.0039	0.0180	0.0001	0.0003	.	0.0002
9	Summer	95	EtOH/SB	07/02/92	U	5.7%EtOH/SB	Formaldehyde	0.0041	0.0172	0.0004	0.0011	.	0.0021
9	Winter	50	LowRVPBase	08/27/91	X	LowRVPWinterBase	Formaldehyde	.	.	.	.	0.0002	0.0031
9	Winter	50	LowRVPBase	12/05/91	X	LowRVPWinterBase	Formaldehyde	0.0023	0.0090	0.0006	0.0005	0.0012	0.0004
9	Winter	50	NewStockBase	08/18/92	Y	NewStockWinterBase	Formaldehyde	0.0035	0.0157	0.0004	0.0004	0.0004	0.0009
9	Winter	50	MTBE	09/06/91	P	15%MTBE	Formaldehyde	0.0032	0.0141	0.0002	0.0006	0.0003	0.0005
9	Winter	50	ETBE	08/30/91	R	17.2%ETBE	Formaldehyde	0.0030	0.0115	0.0008	0.0009	0.0006	0.0037
9	Winter	50	EtOH	09/11/91	T	7.75%EtOH	Formaldehyde	0.0016	0.0079	-0.0001	0.0000	0.0007	0.0012
9	Winter	50	EtOH/SB	09/09/91	V	7.75%EtOH/SB	Formaldehyde	0.0021	0.0100	0.0000	0.0000	0.0003	0.0012
9	Winter	75	Base	03/03/92	N	WinterBase	Formaldehyde	0.0032	0.0094	0.0020	0.0006	0.0004	0.0004
9	Winter	75	MTBE	11/27/91	P	15%MTBE	Formaldehyde	0.0021	0.0091	0.0003	0.0003	0.0007	0.0001
9	Winter	75	MTBE	08/07/92	P	15%MTBE	Formaldehyde	.	.	.	.	.	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Formaldehyde	0.0045	0.0117	0.0034	0.0011	0.0004	0.0002
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	Formaldehyde	0.0020	0.0072	0.0007	0.0003	0.0003	0.0009
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	Formaldehyde	0.0030	0.0102	0.0013	0.0007	0.0002	0.0011
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	Formaldehyde	0.0037	0.0157	0.0005	0.0006	0.0003	0.0124
12	Summer	75	Base	02/26/92	M	SummerBase	Formaldehyde	0.0710	0.0961	0.0650	0.0632	0.0128	0.2340

Exhaust Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	FTP (g HC/mi)	Bag 1 (g HC/mi)	Bag 2 (g HC/mi)	Bag 3 (g HC/mi)	HFET (g HC/mi)	NYCC (g HC/mi)
12	Summer	75	Base	05/06/92	M	SummerBase	Formaldehyde	.	.	.	.	0.0036	0.2261
12	Summer	75	MTBE	02/27/92	O	11%MTBE	Formaldehyde	0.1199	0.1285	0.1344	0.0860	0.0265	0.3549
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	Formaldehyde	0.0822	0.0678	0.0973	0.0643	0.0101	0.2561
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	Formaldehyde	0.0658	0.0972	0.0547	0.0631	0.0112	0.2255
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	Formaldehyde	0.0687	0.0869	0.0586	0.0740	0.0106	0.2334
12	Summer	95	Base	04/27/92	M	SummerBase	Formaldehyde	0.0490	0.0625	0.0467	0.0432	.	0.1717
12	Summer	95	MTBE	07/14/92	O	11%MTBE	Formaldehyde	0.1054	0.1044	0.1158	0.0864	.	0.3272
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	Formaldehyde	0.0878	0.0916	0.0918	0.0774	.	0.2795
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	Formaldehyde	0.1029	0.1057	0.1109	0.0858	.	0.2709
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	Formaldehyde	0.1001	0.0984	0.1089	0.0849	.	0.3110
12	Winter	50	LowRVPBase	09/23/91	X	LowRVPWinterBase	Formaldehyde	0.1243	0.0737	0.1489	0.1162	0.0351	0.5066
12	Winter	50	LowRVPBase	12/10/91	X	LowRVPWinterBase	Formaldehyde	.	.	.	.	.	.
12	Winter	50	NewStockBase	08/19/92	Y	NewStockWinterBase	Formaldehyde	0.0820	0.0821	0.0875	0.0714	0.0089	0.2845
12	Winter	50	MTBE	09/19/91	P	15%MTBE	Formaldehyde	0.1122	0.0860	0.1230	0.1118	0.0283	0.3730
12	Winter	50	MTBE	12/21/91	P	15%MTBE	Formaldehyde	0.1156	0.1101	0.1278	0.0966	0.0462	0.3114
12	Winter	50	ETBE	09/20/91	R	17.2%ETBE	Formaldehyde	0.1167	0.0706	0.1385	0.1104	0.0348	0.4260
12	Winter	50	EtOH	09/26/91	T	7.75%EtOH	Formaldehyde	0.0950	0.0692	0.1081	0.0898	0.0240	0.2714
12	Winter	50	EtOH/SB	09/25/91	V	7.75%EtOH/SB	Formaldehyde	0.0962	0.0558	0.1145	0.0920	0.0272	0.3035
12	Winter	50	EtOH/SB	12/19/91	V	7.75%EtOH/SB	Formaldehyde	0.1671	0.1069	0.2232	0.1070	0.0376	0.3052
12	Winter	75	Base	03/09/92	N	WinterBase	Formaldehyde	0.0806	0.0588	0.0985	0.0634	0.0119	0.2206
12	Winter	75	Base	08/10/92	N	WinterBase	Formaldehyde	.	.	.	.	0.0327	0.3131
12	Winter	75	MTBE	03/25/92	P	15%MTBE	Formaldehyde	0.0804	0.0661	0.0934	0.0666	0.0117	0.1745
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Formaldehyde	0.1448	0.0726	0.2085	0.0792	0.0255	0.2586
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	Formaldehyde	0.0989	0.1078	0.1064	0.0778	0.0196	0.2943
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	Formaldehyde	0.0834	0.0669	0.0989	0.0666	0.0110	0.2191

APPENDIX J
EVAPORATIVE TOXICS DATA

Evaporative Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	Diurnal (g HC)	Hot Soak (g HC)	Running Loss (g HC)
1	Summer	75	Base	01/21/92	M	SummerBase	Benzene	0.0082	0.0186	.
1	Summer	75	MTBE	02/11/92	O	11%MTBE	Benzene	0.0102	0.0228	.
1	Summer	75	ETBE	02/19/92	Q	12.7%ETBE	Benzene	0.0083	0.0237	.
1	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Benzene	0.0104	0.0262	.
1	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Benzene	0.0104	0.0204	.
1	Summer	95	Base	05/04/92	M	SummerBase	Benzene	0.0057	0.0182	0.0560
1	Summer	95	MTBE	07/10/92	O	11%MTBE	Benzene	0.0079	0.0192	0.0393
1	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	Benzene	.	.	0.2593
1	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Benzene	0.0070	0.0257	0.1983
1	Summer	95	EtOH/SB	06/30/92	U	5.7%EtOH/SB	Benzene	0.0136	0.0343	.
1	Summer	95	EtOH/SB	10/20/92	U	5.7%EtOH/SB	Benzene	0.0228	0.1085	.
1	Winter	75	Base	08/10/92	N	WinterBase	Benzene	0.0090	0.0146	.
1	Winter	75	MTBE	01/17/92	P	15%MTBE	Benzene	0.0083	0.0163	.
1	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Benzene	0.0143	0.0227	.
1	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Benzene	0.0082	0.0212	.
1	Winter	75	EtOH/SB	11/29/91	V	7.75%EtOH/SB	Benzene	.	.	.
2	Summer	75	Base	02/07/92	M	SummerBase	Benzene	0.0077	0.0180	.
2	Summer	75	MTBE	02/11/92	O	11%MTBE	Benzene	0.0070	0.0160	.
2	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Benzene	0.0074	0.0165	.
2	Summer	75	EtOH	02/05/92	S	5.7%EtOH	Benzene	0.0108	0.0156	.
2	Summer	75	EtOH/SB	02/13/92	U	5.7%EtOH/SB	Benzene	0.0083	0.0155	.
2	Summer	95	Base	05/06/92	M	SummerBase	Benzene	0.0228	0.0167	.
2	Summer	95	MTBE	07/11/92	O	11%MTBE	Benzene	0.0163	0.0196	0.1760
2	Summer	95	ETBE	05/18/92	Q	12.7%ETBE	Benzene	0.0102	0.0151	0.1608
2	Summer	95	EtOH	05/21/92	S	5.7%EtOH	Benzene	0.0096	0.0215	0.2472
2	Summer	95	EtOH/SB	06/29/92	U	5.7%EtOH/SB	Benzene	0.0167	0.0193	.
2	Winter	75	Base	03/05/92	N	WinterBase	Benzene	0.0093	0.0148	.
2	Winter	75	MTBE	02/21/92	P	15%MTBE	Benzene	0.0151	0.0158	.
2	Winter	75	ETBE	01/23/92	R	17.2%ETBE	Benzene	0.0080	0.0152	.
2	Winter	75	EtOH	02/28/92	T	7.75%EtOH	Benzene	0.0105	0.0168	.
2	Winter	75	EtOH/SB	03/10/92	V	7.75%EtOH/SB	Benzene	0.0102	0.0179	.
3	Summer	75	Base	02/26/92	M	SummerBase	Benzene	0.0201	0.1184	.
3	Summer	75	MTBE	08/05/92	O	11%MTBE	Benzene	0.0239	0.1194	.
3	Summer	75	ETBE	03/06/92	Q	12.7%ETBE	Benzene	0.0206	0.1037	.
3	Summer	75	EtOH	02/06/92	S	5.7%EtOH	Benzene	0.0325	0.1994	.
3	Summer	75	EtOH/SB	03/24/92	U	5.7%EtOH/SB	Benzene	0.0299	0.1674	.
3	Summer	95	Base	07/23/92	M	SummerBase	Benzene	0.0318	0.1309	0.0986

Evaporative Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	Diurnal (g HC)	Hot Soak (g HC)	Running Loss (g HC)
3	Summer	95	MTBE	07/15/92	O	11%MTBE	Benzene	.	.	0.5225
3	Summer	95	ETBE	07/21/92	Q	12.7%ETBE	Benzene	0.0287	0.1324	.
3	Summer	95	EtOH/SB	07/17/92	U	5.7%EtOH/SB	Benzene	0.0388	0.1631	.
3	Winter	75	Base	10/12/92	N	WinterBase	Benzene	0.1409	0.2199	.
3	Winter	75	MTBE	03/19/92	P	15%MTBE	Benzene	0.0170	0.1546	.
3	Winter	75	ETBE	02/28/92	R	17.2%ETBE	Benzene	0.0161	0.1094	.
3	Winter	75	EtOH	01/28/92	T	7.75%EtOH	Benzene	0.0250	0.2168	.
3	Winter	75	EtOH/SB	03/23/92	V	7.75%EtOH/SB	Benzene	0.0203	0.2020	.
4	Summer	75	Base	01/13/92	M	SummerBase	Benzene	0.0200	0.0375	.
4	Summer	75	MTBE	07/29/92	O	11%MTBE	Benzene	0.0293	0.0262	.
4	Summer	75	ETBE	02/20/92	Q	12.7%ETBE	Benzene	0.0186	0.0288	.
4	Summer	75	EtOH	01/29/92	S	5.7%EtOH	Benzene	0.0172	0.0350	.
4	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Benzene	0.0187	0.0536	.
4	Summer	95	Base	05/22/92	M	SummerBase	Benzene	0.0432	0.0764	.
4	Summer	95	Base	10/20/92	M	SummerBase	Benzene	0.0493	0.0613	.
4	Summer	95	MTBE	07/09/92	O	11%MTBE	Benzene	0.0354	0.0598	.
4	Summer	95	ETBE	06/04/92	Q	12.7%ETBE	Benzene	0.0286	0.0616	.
4	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Benzene	0.0456	0.0730	.
4	Summer	95	EtOH/SB	06/27/92	U	5.7%EtOH/SB	Benzene	0.0347	0.0573	.
4	Winter	75	Base	02/04/92	N	WinterBase	Benzene	0.0208	0.0461	.
4	Winter	75	MTBE	08/07/92	P	15%MTBE	Benzene	0.0262	0.0192	.
4	Winter	75	ETBE	01/27/92	R	17.2%ETBE	Benzene	0.0190	0.0326	.
4	Winter	75	EtOH	02/24/92	T	7.75%EtOH	Benzene	0.0184	0.0442	.
4	Winter	75	EtOH/SB	01/04/92	V	7.75%EtOH/SB	Benzene	0.0167	0.0282	.
5	Summer	75	Base	01/20/92	M	SummerBase	Benzene	0.0035	0.0057	.
5	Summer	75	ETBE	02/17/92	Q	12.7%ETBE	Benzene	0.0054	0.0074	.
5	Summer	75	EtOH	01/31/92	S	5.7%EtOH	Benzene	.	.	.
5	Summer	75	EtOH/SB	02/12/92	U	5.7%EtOH/SB	Benzene	0.0033	0.0068	.
5	Summer	95	Base	05/20/92	M	SummerBase	Benzene	0.0017	0.0038	.
5	Summer	95	MTBE	07/08/92	O	11%MTBE	Benzene	0.0029	0.0047	.
5	Summer	95	EtOH	05/29/92	S	5.7%EtOH	Benzene	0.0029	0.0064	.
5	Summer	95	EtOH/SB	06/25/92	U	5.7%EtOH/SB	Benzene	0.0027	0.0057	.
5	Winter	75	MTBE	01/05/92	P	15%MTBE	Benzene	0.0019	0.0047	.
5	Winter	75	ETBE	01/24/92	R	17.2%ETBE	Benzene	0.0029	0.0063	.
5	Winter	75	EtOH	01/09/92	T	7.75%EtOH	Benzene	0.0033	0.0091	.
5	Winter	75	EtOH/SB	12/03/91	V	7.75%EtOH/SB	Benzene	0.0052	0.0021	.
6	Summer	95	Base	05/05/92	M	SummerBase	Benzene			0.0401

Evaporative Toxics Data

Vehicle	Blend Season	Temperature (F)	Blend Type	Test Date	Fuel Id	Fuel Description	Compound	Diurnal (g HC)	Hot Soak (g HC)	Running Loss (g HC)
6	Summer	95	MTBE	07/24/92	O	11%MTBE	Benzene	.	.	0.0000
6	Summer	95	ETBE	05/12/92	Q	12.7%ETBE	Benzene	.	.	0.0442
6	Summer	95	EtOH	05/26/92	S	5.7%EtOH	Benzene	.	.	0.0443
9	Summer	75	Base	02/05/92	M	SummerBase	Benzene	0.0074	0.0187	.
9	Summer	75	MTBE	02/27/92	O	11%MTBE	Benzene	0.0060	0.0122	.
9	Summer	75	ETBE	02/18/92	Q	12.7%ETBE	Benzene	0.0054	0.0147	.
9	Summer	75	EtOH	02/07/92	S	5.7%EtOH	Benzene	0.0059	0.0148	.
9	Summer	75	EtOH/SB	02/14/92	U	5.7%EtOH/SB	Benzene	0.0056	0.0141	.
9	Summer	95	Base	04/29/92	M	SummerBase	Benzene	0.0058	0.0153	0.1019
9	Summer	95	MTBE	07/13/92	O	11%MTBE	Benzene	0.0054	0.0157	0.0951
9	Summer	95	ETBE	05/14/92	Q	12.7%ETBE	Benzene	0.0055	0.0099	0.0904
9	Summer	95	EtOH	05/26/92	S	5.7%EtOH	Benzene	0.0090	0.0123	0.1304
9	Summer	95	EtOH/SB	07/02/92	U	5 7%EtOH/SB	Benzene	0 0071	0.0370	0.1182
9	Winter	75	Base	03/03/92	N	WinterBase	Benzene	0.0039	0.0106	.
9	Winter	75	MTBE	11/27/91	P	15%MTBE	Benzene	.	.	.
9	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Benzene	0.0048	0.0090	.
9	Winter	75	EtOH	02/21/92	T	7.75%EtOH	Benzene	0.0044	0.0122	.
9	Winter	75	EtOH/SB	01/06/92	V	7.75%EtOH/SB	Benzene	0.0056	0.0232	.
9	Winter	75	EtOH/SB	08/05/92	V	7.75%EtOH/SB	Benzene	0.0046	0.0103	.
12	Summer	75	Base	02/26/92	M	SummerBase	Benzene	0.0457	0.0309	.
12	Summer	75	MTBE	02/27/92	O	11%MTBE	Benzene	0.0459	0.0595	.
12	Summer	75	ETBE	03/23/92	Q	12.7%ETBE	Benzene	0.0393	0.0316	.
12	Summer	75	EtOH	03/18/92	S	5.7%EtOH	Benzene	0.0493	0.0775	.
12	Summer	75	EtOH/SB	03/16/92	U	5.7%EtOH/SB	Benzene	0.0624	0.0958	.
12	Summer	95	Base	04/27/92	M	SummerBase	Benzene	0.0875	0.0476	0.0647
12	Summer	95	MTBE	07/14/92	O	11%MTBE	Benzene	0.0995	0.0554	0.1162
12	Summer	95	ETBE	05/15/92	Q	12.7%ETBE	Benzene	0.0766	0.0609	.
12	Summer	95	EtOH	05/27/92	S	5.7%EtOH	Benzene	0.1225	0.0602	0.1374
12	Summer	95	EtOH/SB	07/01/92	U	5.7%EtOH/SB	Benzene	0.1005	0.0855	.
12	Winter	75	Base	03/09/92	N	WinterBase	Benzene	0.0691	0.0987	.
12	Winter	75	MTBE	03/25/92	P	15%MTBE	Benzene	0.0793	0.0514	.
12	Winter	75	ETBE	02/24/92	R	17.2%ETBE	Benzene	0.0502	0.0483	.
12	Winter	75	EtOH	03/05/92	T	7.75%EtOH	Benzene	0.1154	0.1128	.
12	Winter	75	EtOH/SB	03/12/92	V	7.75%EtOH/SB	Benzene	0.0877	0.1100	.

APPENDIX K

SAS REGRESSION OUTPUT LISTINGS, PARITY PLOTS AND RESIDUAL PLOTS

APPENDIX K

SAS Regression Output Listings, Parity Plots and Residual Plots

K.1 Sample SAS Program for NOx

K.2 Regression Model for Individual Vehicles for Exhaust CO

K.3 Regression Model for Exhaust CO by Technology Group

K.4 Regression Model for Individual Vehicles for Exhaust HC

K.5 Regression Model for Exhaust HC by Technology Group

K.6 Regression Model for Individual Vehicles for Exhaust NOx

K.7 Regression Models for Exhaust NOx by Technology Group

K.8 Regression Model for Individual Vehicles for Exhaust Estimated Ozone Production

K.9 Regression Model for Exhaust Estimated Ozone Production by Technology Group

K.10 Regression Model for Individual Vehicles for Exhaust Benzene

K.11 Regression Models for Exhaust Benzene by Technology Group

K.12 Regression Model for Individual Vehicles for Exhaust Formaldehyde

K.13 Regression Model for Exhaust Formaldehyde by Technology Group

K.14 Regression Model for Individual Vehicles for Exhaust Acetaldehyde

K.15 Regression Model for Exhaust Acetaldehyde by Technology Group

K.16 Regression Model for Individual Vehicles for Exhaust 1,3-Butadiene

K.17 Regression Model for Exhaust 1,3-Butadiene by Technology Group

K.18 Regression Model for Individual Vehicles for Evaporative Diurnal

K.19 Regression Model for Evaporative Diurnal by Technology Group

K.20 Regression Models for Individual Vehicles for Evaporative Diurnal Estimated Ozone Production

K.21 Regression Models for Evaporative Diurnal Estimated Ozone Production by Technology Group

K.22 Regression Models for Evaporative Diurnal Benzene by Technology Group

K.23 Regression Models for Evaporative Hot-Soak by Sensitivity/Technology Group

K.24 Regression Models for Evaporative Hot-Soak Estimated Ozone Production by Sensitivity/Technology Group

K.25 Regression Models for Evaporative Hot-Soak Benzene by Technology Group

K.26 Regression Models for Evaporative Running Losses by Technology Group

K.27 Regression Models for Evaporative Running Loss Estimated Ozone Production by Technology Group

K.28 Regression Models for Evaporative Running Loss Benzene by Technology Group

```
/*****************************************************************************
   Filename: glm5.sas
   Date:     11 NOV 93
   Code:     Lowell Howlett
   Project:  CARB Oxy data analysis
   Purpose:  Final tweak of Individual vehicle model with best tranformation, ou
  tliers removed, appropriate bases combined.

*****************************************************************************/

 * goptions device=tek4014;
 * goptions  device=cgam;
 * goptions  NOPROMPT device=hplj5p2 Rotate=landscape
          GACCESS='sasgacmd>lpr -onb -Pomnig';
 * goptions device=hpljgll rotate=landscape ftext=simplex;
  filename gsasfile pipe 'lp -oraw -onb -dl2_4479' ;
  goptions device=hpljgll cby=black gaccess=gsasfile rotate=landscape ;
 /*
  goptions device=xcolor  cback=tan ;
 */

 libname home  '../carboxy' ;

 *options  PS=44 LS=132 ;
 options  PS=59 LS=79 nodate ;

 data fuel (keep = fuelid season blendtyp oxy) ;
   length season $6. blendtyp $12. fuelid $1. fueldesc $18. ;

   infile '../../fuel.ascii' firstobs=2 missover lrecl=70 pad ;
   input season blendtyp fuelid fueldesc oxy rvp ;

 run ;

 data fleet (keep= vehid fuelsys emstech disp cnstr) ;
   length vin $17. make model $10. fuelsys emstech cnstr $12. ;

   infile '../../fleet.ascii' firstobs=2 missover lrecl=150 pad ;
   input vehid vin modelyr make model & fuelsys emstech disp cnstr ;
 run ;

 DATA FTPBAG;
   LENGTH FUELDESC $ 18;
   INFORMAT TESTDATE MMDDYY8.;

   infile '../../ftpbag.ascii'  firstobs=1 missover lrecl=500 pad ;
   INPUT TEMP VEHID TESTDATE FUELID $ FUELDESC $ FTPHC FTPCO FTPNOx
         FTPCO2 FTPMPG  B1HC B1CO B1NOx B1CO2 B2HC B2CO B2NOx B2CO2
         B3HC B3CO B3NOx B3CO2;
   FORMAT TESTDATE MMDDYY8.;
   KEEP TEMP VEHID FUELID testdate FUELDESC B1HC B2HC B3HC b1co b2co b3co
        b1nox b2nox b3nox ;
 run ;

 DATA CYCLE ;
   LENGTH FUELDESC $ 18 ;
   INFORMAT TESTDATE MMDDYY8. ;

   infile '../../cycle.ascii'  firstobs=1 missover lrecl=500 pad ;
   INPUT TEMP VEHID TESTDATE  FUELID $ FUELDESC $ DI HS FTPHC FTPCO FTPNOx
         FTPCO2 FTPMPG HFETHC HFETCO HFETNOx HFETCO2 HFETMPG NYCCHC NYCCCO
         NYCCNOx NYCCCO2 NYCCMPG;

   FORMAT TESTDATE MMDDYY8.;
   KEEP VEHID FUELID FUELDESC temp testdate
        FTPHC  HFETHC  NYCCHC
        ftpco  hfetco  nyccco
        ftpnox hfetnox nyccnox ;
 run ;

 proc sort data=cycle ;
   by vehid temp fuelid testdate ;
 run ;

 proc sort data=ftpbag ;
   by vehid temp fuelid testdate ;
 run ;

 data mergel ;
   merge cycle ftpbag ;
     by vehid temp fuelid testdate ;
 run ;

 proc sort data=fleet ;
   by vehid ;
 run ;

 data merge2 ;
   merge mergel fleet ;
     by vehid ;
 run ;

 proc sort data=fuel ;
   by fuelid ;
 run ;

 proc sort data=merge2 ;
   by fuelid ;
 run ;

 data merge3 ;
   merge merge2 fuel ;
     by fuelid ;
   if fuelid = 'A' or fuelid = 'E' then delete ;
 run ;

 proc sort data=merge3 ;
   by vehid season temp blendtyp fuelsys emstech disp cnstr ;
 run ;

 proc transpose data=merge3 out=trans name=cycle ;
   by vehid season temp blendtyp fuelsys emstech cnstr fuelid fueldesc oxy disp t
   estdate;
   var ftpnox hfetnox nyccnox b1nox b2nox b3nox ;
 run ;

 data logg ;
   set trans ;
   NOx = col1 ;
   lnNOx = log(col1) ;
```

```
  NOx2=(col1)**0.2;

  if season = ' ' then delete ;

  if blendtyp='Base' then blendtyp='xBase';
  if blendtyp='NewStockBase' then delete;

  if blendtyp='xBase' or blendtyp='LowRVPBase' then coblend ='Low+OrigBase';
        else coblend=blendtyp;

if vehid=6 and season='Summer' and temp=95 and cycle='NYCCNOX' and blendtyp='xBa
  se' and testdate='5May92'D then delete;
if vehid=6 and season='Winter' and temp=75 and cycle='NYCCNOX' and blendtyp='xBa
  se' and testdate='18Mar92'D then delete;
if vehid=13 and season='Summer' and temp=95 and cycle='NYCCNOX' and blendtyp='Et
  OH/SB' and testdate='21Aug92'D then delete;

run ;

*proc print;
*   var vehid blendtyp coblend ;

proc glm data=logg ;
  class vehid cycle season temp blendtyp fuelsys emstech cnstr coblend;
  model NOx2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy / noint ss1
  ss2 solution ;
  output out=result p=lpred r=lresid L95M=lo2 U95M=hi2;
  title1 f=simplex 'Total Exhaust NOx Emissions' ;
  title2 f=simplex "Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*c
  oblend*oxy " ;
  footnote1 "glm5.sas &sysdate &systime" ;
run ;

proc sort data=result ;
  by vehid season temp testdate ;
run ;

* proc print data=result ;
* var vehid season temp blendtyp testdate fuelid fueldesc cycle NOx NOx2 lpred ;
* run ;

data result ;
  set result ;
  pred=lpred**5;
  lo=lo2**5;
  hi=hi2**5;

run ;

proc sort ;
  by vehid fuelsys emstech ;
run ;


  SYMBOL1  i=none l=33 w=3 h=0.4 font=simplex v='1' c=black ;
  SYMBOL2  i=none l=2  w=3 h=0.4 font=simplex v='2' c=black ;
  SYMBOL3  i=none l=14 w=3 h=0.4 font=simplex v='3' c=black ;
  SYMBOL4  i=none l=33 w=3 h=0.4 font=simplex v='4' c=black ;
  SYMBOL5  i=none l=33 w=3 h=0.4 font=simplex v='5' c=black ;
  SYMBOL6  i=none l=33 w=3 h=0.4 font=simplex v='6' c=black ;
  SYMBOL7  i=none l=2  w=3 h=0.4 font=simplex v='7' c=black ;
  SYMBOL8  i=none l=33 w=3 h=0.4 font=simplex v='8' c=black ;
  SYMBOL9  i=none l=4  w=3 h=0.4 font=simplex v='9' c=black ;
  SYMBOL10 i=none l=8  w=3 h=0.4 font=simplex v='A' c=black ;
  SYMBOL11 i=none l=2  w=3 h=0.4 font=simplex v='B' c=black ;
  SYMBOL12 i=none l=8  w=3 h=0.4 font=simplex v='C' c=black ;
  SYMBOL13 i=none l=1  w=3 h=0.4 font=simplex v='D' c=black ;


  AXIS1
    LABEL = (a=90 r=0 h=1.0 f=simplex "Residual NOx**0.2")
    VALUE = (F=simplex)
    /*logbase = 10*/
  ;

  AXIS2
    LABEL = (f=simplex h=1.0 'Actual NOx**0.2')
    VALUE = (F=simplex h=0.7)
    /*logbase = 10*/
  ;

  AXIS3
    LABEL = (a=90 r=0 h=1.0 f=simplex "Predicted NOx  (g/mi)")
    VALUE = (F=simplex)
    logbase = 10
  ;

  AXIS4
    LABEL = (f=simplex h=1.0 'Measured NOx  (g/mi)')
    VALUE = (F=simplex h=0.7)
    logbase = 10
  ;

  title1 f=simplex 'Total Exhaust NOx Emissions' ;
  title2 f=simplex "Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*c
  oblend*oxy " ;
  footnote f=simplex j=l h=0.5 "glm5.sas &sysdate &systime" ;

proc gplot uniform ;

  plot lresid*NOx2=vehid /
       vaxis=axis1
       haxis=axis2
       frame ;
run ;

proc gplot uniform ;

  plot pred*NOx=vehid /
       vaxis=axis3
       haxis=axis4
       frame ;
run ;

data blndplot (keep=vehid cycle emstech coblend temp season xloc lpred hi2 lo2 )
  ;
  set result;

if cycle='FTPNOX' and temp=75 and season='Summer';
if vehid='1' or vehid='2' or vehid='3' or vehid='10';
```

```
    if coblend='ETBE' and emstech='3wayAdaptive' then xloc=1;
    if coblend='ETBE' and emstech='3wayNonadapt' then xloc=2;
    if coblend='ETBE' and emstech='Oxycatalyst' then xloc=3;
    if coblend='ETBE' and emstech='Noncatalyst' then xloc=4;
    if coblend='EtOH' and emstech='3wayAdaptive' then xloc=7;
    if coblend='EtOH' and emstech='3wayNonadapt' then xloc=8;
    if coblend='EtOH' and emstech='Oxycatalyst' then xloc=9;
    if coblend='EtOH' and emstech='Noncatalyst' then xloc=10 ;
    if coblend='EtOH/SB' and emstech='3wayAdaptive' then xloc=13 ;
    if coblend='EtOH/SB' and emstech='3wayNonadapt' then xloc=14 ;
    if coblend='EtOH/SB' and emstech='Oxycatalyst' then xloc=15 ;
    if coblend='EtOH/SB' and emstech='Noncatalyst' then xloc=16 ;
    if coblend='MTBE' and emstech='3wayAdaptive' then xloc=19 ;
    if coblend='MTBE' and emstech='3wayNonadapt' then xloc=20 ;
    if coblend='MTBE' and emstech='Oxycatalyst' then xloc=21 ;
    if coblend='MTBE' and emstech='Noncatalyst' then xloc=22 ;

  proc sort;
    by emstech xloc;
  proc print;

  data blndplot (drop= vehid cycle );
    set blndplot; by emstech xloc;
    retain lbase;
    if first.emstech then  lbase=lpred;
    clpred=lpred-lbase;
    chi2=hi2-lbase;
    clo2=lo2-lbase;
    proc print;

  proc transpose data=blndplot out=trans;
   by emstech xloc;
   var clpred chi2 clo2;

  data annot;
     set blndplot;
     length position $1. function $8. text $7. ;
     xsys = '2';
     ysys ='2';

     function = 'move';
     x = xloc;
     y = clo2;
     output;

     function = 'label' ;
     position = 'E';
     text= emstech;
     size = 0.7 ;
     output;
 run;

 data trans;
    set trans;

 proc gplot;
   plot coll*xloc /
     vaxis=axis5
     haxis=axis6
     vref=0.
     lvref=3
     annotate=annot
     frame;

 AXIS5
   length = 5.0 in
   label = (a=90 r=0 h=0.8 f=simplex "Change in NOx**0.2 Emissions Relative to Ba
   se")
   value = (h=0.7 f=simplex)
   ;

 AXIS6
   length = 7.5 in
   label = (f=simplex h=1.0 "Blend Type")
   major = none
   minor = none
   value = (h=0.7 f=simplex '' '' 'ETBE' '' '' '' '' '' 'EtOH' '' '' '' '' '' 'Et
   OH/SB' '' '' '' '' '' 'MTBE' '' '' '' )
   order = 0 to 23 by 1
   ;

 SYMBOL1 i=hilot L=1 W=3 V= C=black ;

   title1 'Effect of Blend Type on Exhaust NOx Emissions';
   title2 f=simplex "Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*c
   oblend*oxy " ;
```

Total Exhaust CO Emissions 1

Model: lnCO = vehid*cycle vehid*temp vehid*coblend*oxy season cycle*temp

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1CO B2CO B3CO FTPCO HFETCO NYCCCO
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1770

NOTE: Due to missing values, only 1667 observations can be used in this analysis.

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Total Exhaust CO Emissions 2

Model: lnCO = vehid*cycle vehid*temp vehid*coblend*oxy season cycle*temp

General Linear Models Procedure

Dependent Variable: LNCO

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	167	8829.1068232	52.8689031	464.83	0.0001
Error	1500	170.6062176	0.1137375		
Uncorrected Total	1667	8999.7130409			

R-Square	C.V.	Root MSE	LNCO Mean
0.941374	17.64512	0.3372499	1.9112921

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	78	8633.5913039	110.6870680	973.18	0.0001
VEHID*TEMP	26	126.4946073	4.8651772	42.78	0.0001
OXY*VEHID*COBLEND	52	18.9620099	0.3646540	3.21	0.0001
SEASON	1	1.6317102	1.6317102	14.35	0.0002
CYCLE*TEMP	10	48.4271919	4.8427192	42.58	0.0001

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	60	338.96133040	5.64935551	49.67	0.0001
VEHID*TEMP	24	111.13046003	4.63043583	40.71	0.0001
OXY*VEHID*COBLEND	52	19.68750295	0.37860583	3.33	0.0001
SEASON	1	1.63227277	1.63227277	14.35	0.0002
CYCLE*TEMP	10	48.42719189	4.84271919	42.58	0.0001

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 B1CO	2.038071763 B	18.51	0.0001	0.11011872
1 B2CO	-1.898177515 B	-17.24	0.0001	0.11011872
1 B3CO	1.695723636 B	15.40	0.0001	0.11011872
1 FTPCO	1.249952164 B	11.35	0.0001	0.11011872
1 HFETCO	0.840367136 B	7.84	0.0001	0.10713692
1 NYCCCO	2.778216309 B	25.40	0.0001	0.10938943
2 B1CO	3.447395436 B	30.46	0.0001	0.11316397
2 B2CO	2.484876952 B	21.96	0.0001	0.11316397

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Model: lnCO = vehid*cycle vehid*temp vehid*coblend*oxy season cycle*temp

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
2 B3CO	2.908800099 B	25.70	0.0001	0.11316397
2 FTPCO	2.874773124 B	25.40	0.0001	0.11316397
2 HFETCO	2.331145662 B	21.11	0.0001	0.11043805
2 NYCCCO	3.278362120 B	30.35	0.0001	0.10800470
3 B1CO	3.957097218 B	33.68	0.0001	0.11750426
3 B2CO	3.379601652 B	28.76	0.0001	0.11750426
3 B3CO	3.371343366 B	28.69	0.0001	0.11750426
3 FTPCO	3.526747381 B	30.01	0.0001	0.11750426
3 HFETCO	3.131781679 B	26.68	0.0001	0.11739617
3 NYCCCO	4.158049982 B	35.45	0.0001	0.11730444
4 B1CO	1.849443961 B	16.57	0.0001	0.11163510
4 B2CO	1.055119665 B	9.45	0.0001	0.11163510
4 B3CO	1.303833837 B	11.68	0.0001	0.11163510
4 FTPCO	1.353230224 B	12.12	0.0001	0.11163510
4 HFETCO	0.681812262 B	6.11	0.0001	0.11152715
4 NYCCCO	2.066280303 B	18.95	0.0001	0.10901076
5 B1CO	1.908960558 B	16.83	0.0001	0.11340645
5 B2CO	0.587833240 B	5.18	0.0001	0.11340645
5 B3CO	0.879902256 B	7.76	0.0001	0.11340645
5 FTPCO	1.161654711 B	10.24	0.0001	0.11340645
5 HFETCO	-0.282544288 B	-2.49	0.0128	0.11330936
5 NYCCCO	2.300993555 B	20.81	0.0001	0.11058613
6 B1CO	1.838136230 B	16.19	0.0001	0.11354063

Model: lnCO = vehid*cycle vehid*temp vehid*coblend*oxy season cycle*temp

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
6 B2CO	0.811057028 B	7.14	0.0001	0.11354063
6 B3CO	1.482698812 B	13.06	0.0001	0.11354063
6 FTPCO	1.293283709 B	11.39	0.0001	0.11354063
6 HFETCO	0.794396873 B	7.00	0.0001	0.11344462
6 NYCCCO	2.636090420 B	23.25	0.0001	0.11336195
7 B1CO	3.878672093 B	36.45	0.0001	0.10640079
7 B2CO	3.157217313 B	29.67	0.0001	0.10640079
7 B3CO	3.319561127 B	31.20	0.0001	0.10640079
7 FTPCO	3.443854296 B	32.37	0.0001	0.10640079
7 HFETCO	1.556451587 B	14.64	0.0001	0.10630652
7 NYCCCO	4.574283196 B	43.06	0.0001	0.10622441
8 B1CO	1.849331492 B	16.57	0.0001	0.11160957
8 B2CO	0.886657710 B	7.94	0.0001	0.11160957
8 B3CO	1.335154099 B	11.96	0.0001	0.11160957
8 FTPCO	1.315555488 B	11.79	0.0001	0.11160957
8 HFETCO	-0.552299358 B	-4.95	0.0001	0.11150724
8 NYCCCO	2.645238674 B	23.74	0.0001	0.11141893
9 B1CO	2.604671038 B	23.76	0.0001	0.10963457
9 B2CO	1.698290268 B	15.49	0.0001	0.10963457
9 B3CO	2.777086786 B	25.33	0.0001	0.10963457
9 FTPCO	2.295976706 B	20.94	0.0001	0.10963457
9 HFETCO	2.036085642 B	18.64	0.0001	0.10924117
9 NYCCCO	3.588137401 B	32.79	0.0001	0.10943965

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
10 B1CO	3.654578181 B	32.33	0.0001	0.11305298
10 B2CO	1.624783037 B	14.37	0.0001	0.11305298
10 B3CO	3.155048817 B	27.91	0.0001	0.11305298
10 FTPCO	2.914088541 B	25.78	0.0001	0.11305298
10 HFETCO	2.858165088 B	25.84	0.0001	0.11062963
10 NYCCCO	3.925973496 B	35.17	0.0001	0.11162539
11 B1CO	3.040243756 B	27.07	0.0001	0.11231371
11 B2CO	1.946491701 B	17.33	0.0001	0.11231371
11 B3CO	3.019594769 B	26.89	0.0001	0.11231371
11 FTPCO	2.602152130 B	23.17	0.0001	0.11231371
11 HFETCO	1.435702885 B	12.83	0.0001	0.11193683
11 NYCCCO	3.746071185 B	33.49	0.0001	0.11184723
12 B1CO	3.043699878 B	28.10	0.0001	0.10831233
12 B2CO	2.956431060 B	27.30	0.0001	0.10831233
12 B3CO	2.840003729 B	26.22	0.0001	0.10831233
12 FTPCO	2.869076177 B	26.49	0.0001	0.10831233
12 HFETCO	2.043302751 B	19.34	0.0001	0.10563144
12 NYCCCO	3.731262473 B	35.36	0.0001	0.10553288
13 B1CO	2.525189422 B	22.31	0.0001	0.11317642
13 B2CO	-0.062146261 B	-0.55	0.5830	0.11317642
13 B3CO	0.247970784 B	2.19	0.0286	0.11317642
13 FTPCO	1.396813815 B	12.34	0.0001	0.11317642
13 HFETCO	-0.612317261 B	-5.41	0.0001	0.11308005

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
13 NYCCCO	1.741027093 B	15.71	0.0001	0.11084642
VEHID*TEMP				
1 50	-0.577762318 B	-5.51	0.0001	0.10494549
1 75	-0.808138304 B	-9.31	0.0001	0.08683459
1 95	0.000000000 B	.	.	.
2 50	0.129886232 B	1.26	0.2081	0.10313786
2 75	0.103349438 B	1.20	0.2319	0.08641912
2 95	0.000000000 B	.	.	.
3 50	-0.604166730 B	-5.42	0.0001	0.11143325
3 75	-0.463894849 B	-4.90	0.0001	0.09461608
3 95	0.000000000 B	.	.	.
4 50	-0.280917575 B	-2.69	0.0072	0.10443449
4 75	-0.150519061 B	-1.73	0.0830	0.08677661
4 95	0.000000000 B	.	.	.
5 50	0.064363125 B	0.62	0.5381	0.10452715
5 75	0.034056680 B	0.39	0.6988	0.08799618
5 95	0.000000000 B	.	.	.
6 50	-0.033757585 B	-0.32	0.7492	0.10555341
6 75	0.029658197 B	0.33	0.7395	0.08916126
6 95	0.000000000 B	.	.	.
7 50	-1.989517510 B	-20.56	0.0001	0.09678756
7 75	-1.554316202 B	-18.14	0.0001	0.08568771
7 95	0.000000000 B	.	.	.
8 50	-0.445083335 B	-4.31	0.0001	0.10337291
8 75	-0.004699630 B	-0.05	0.9577	0.08865198
8 95	0.000000000 B	.	.	.
9 50	-0.283644729 B	-2.80	0.0052	0.10127229
9 75	-0.246149578 B	-2.78	0.0055	0.08847777
9 95	0.000000000 B	.	.	.
10 50	-0.965193052 B	-9.14	0.0001	0.10554535
10 75	-0.455591814 B	-5.18	0.0001	0.08802390
10 95	0.000000000 B	.	.	.
11 50	-1.050005143 B	-9.96	0.0001	0.10544645
11 75	-0.281135006 B	-3.18	0.0015	0.08839663
11 95	0.000000000 B	.	.	.
12 50	0.687690543 B	7.01	0.0001	0.09813946
12 75	0.268246858 B	3.05	0.0024	0.08803566

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*TEMP 12 95	0.000000000 B	.	.	.
13 50	-0.296451850 B	-2.81	0.0050	0.10551986
13 75	-0.061052291 B	-0.69	0.4909	0.08860129
13 95	0.000000000 B	.	.	.
OXY*VEHID*COBLEND 1 ETBE	-0.011388351	-0.30	0.7679	0.03857660
1 EtOH	-0.024271414	-0.64	0.5217	0.03787460
1 EtOH/SB	-0.005700179	-0.15	0.8825	0.03857660
1 Low+OrigBase	0.000000000	.	.	.
1 MTBE	-0.032152460	-0.85	0.3965	0.03790718
2 ETBE	-0.091321830	-2.27	0.0233	0.04020474
2 EtOH	-0.048413506	-1.20	0.2287	0.04020474
2 EtOH/SB	-0.092617000	-2.30	0.0214	0.04020638
2 Low+OrigBase	0.000000000	.	.	.
2 MTBE	-0.110046017	-2.72	0.0066	0.04047858
3 ETBE	-0.204246546	-5.05	0.0001	0.04043912
3 EtOH	-0.283781900	-6.59	0.0001	0.04305614
3 EtOH/SB	-0.230056904	-5.69	0.0001	0.04043912
3 Low+OrigBase	0.000000000	.	.	.
3 MTBE	-0.258559671	-6.56	0.0001	0.03943520
4 ETBE	-0.120297028	-2.98	0.0029	0.04039397
4 EtOH	0.039621240	0.99	0.3235	0.04012106
4 EtOH/SB	-0.062894869	-1.56	0.1197	0.04039397
4 Low+OrigBase	0.000000000	.	.	.

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 4 MTBE	-0.065656943	-1.78	0.0756	0.03692105
5 ETBE	-0.038509430	-0.95	0.3416	0.04047863
5 EtOH	-0.026044291	-0.65	0.5172	0.04020666
5 EtOH/SB	-0.063077596	-1.56	0.1194	0.04047863
5 Low+OrigBase	0.000000000	.	.	.
5 MTBE	-0.010555698	-0.26	0.7943	0.04047863
6 ETBE	-0.009844836	-0.24	0.8079	0.04047865
6 EtOH	-0.000805171	-0.02	0.9841	0.04047865
6 EtOH/SB	0.090394899	2.23	0.0257	0.04047865
6 Low+OrigBase	0.000000000	.	.	.
6 MTBE	-0.015191379	-0.38	0.7075	0.04047865
7 ETBE	-0.143217424	-3.74	0.0002	0.03826279
7 EtOH	-0.133608971	-3.49	0.0005	0.03826279
7 EtOH/SB	-0.040780485	-1.10	0.2696	0.03692551
7 Low+OrigBase	0.000000000	.	.	.
7 MTBE	-0.063638798	-1.80	0.0716	0.03529758
8 ETBE	0.070370254	1.74	0.0821	0.04045176
8 EtOH	0.017277798	0.43	0.6694	0.04045176
8 EtOH/SB	0.058456392	1.56	0.1183	0.03740101
8 Low+OrigBase	0.000000000	.	.	.
8 MTBE	0.057924857	1.52	0.1287	0.03810573
9 ETBE	-0.016631261	-0.43	0.6640	0.03827655
9 EtOH	0.053848320	1.41	0.1597	0.03827655

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 9 EtOH/SB	0.004562442	0.13	0.8974	0.03536798
9 Low+OrigBase	0.000000000	.	.	.
9 MTBE	0.024725340	0.66	0.5119	0.03769149
10 ETBE	-0.100992953	-2.52	0.0119	0.04008933
10 EtOH	-0.057235510	-1.43	0.1515	0.03988560
10 EtOH/SB	-0.003951781	-0.10	0.9207	0.03966989
10 Low+OrigBase	0.000000000	.	.	.
10 MTBE	-0.103604728	-2.60	0.0095	0.03988560
11 ETBE	-0.104388676	-2.66	0.0079	0.03926860
11 EtOH	-0.105628537	-2.61	0.0091	0.04044208
11 EtOH/SB	-0.083543399	-2.23	0.0256	0.03740111
11 Low+OrigBase	0.000000000	.	.	.
11 MTBE	-0.053611939	-1.33	0.1852	0.04044208
12 ETBE	0.018146736	0.49	0.6270	0.03733898
12 EtOH	0.042172598	1.13	0.2589	0.03733898
12 EtOH/SB	0.052275400	1.52	0.1293	0.03444038
12 Low+OrigBase	0.000000000	.	.	.
12 MTBE	0.051899594	1.51	0.1320	0.03444038
13 ETBE	0.009127018	0.23	0.8200	0.04010161
13 EtOH	-0.134058114	-3.34	0.0008	0.04010161
13 EtOH/SB	-0.057280824	-1.43	0.1534	0.04010161
13 Low+OrigBase	0.000000000	.	.	.
13 MTBE	-0.040322287	-1.02	0.3068	0.03944096

General Linear Models Procedure

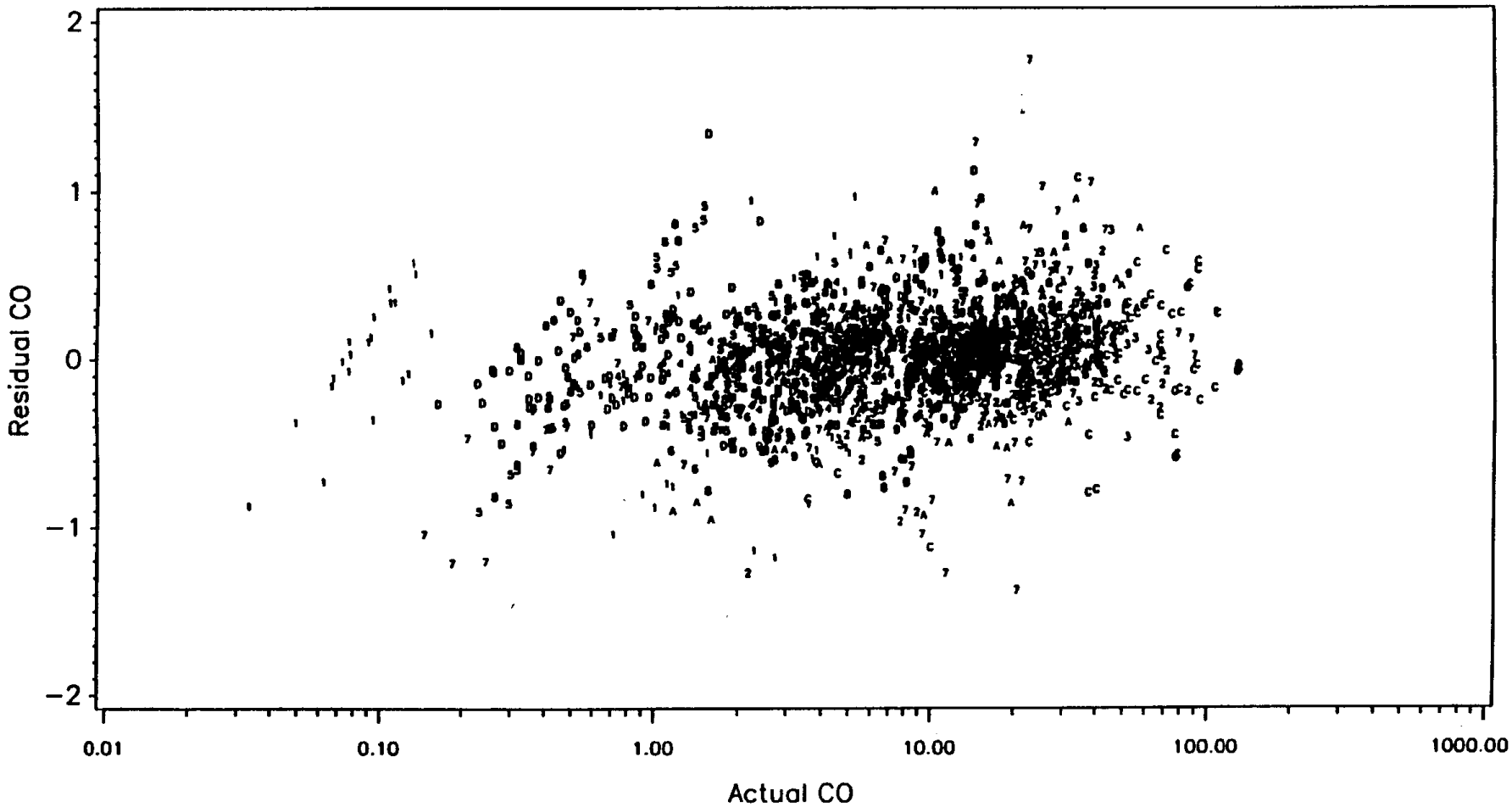
Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
SEASON Summer	-0.090402013 B	-3.79	0.0002	0.02386347
Winter	0.000000000 B	.	.	.
CYCLE*TEMP B1CO 50	1.061930660 B	13.08	0.0001	0.08117150
B1CO 75	0.397350485 B	5.60	0.0001	0.07090701
B1CO 95	0.000000000 B	.	.	.
B2CO 50	-0.027446001 B	-0.34	0.7353	0.08117150
B2CO 75	0.181900798 B	2.57	0.0104	0.07090701
B2CO 95	0.000000000 B	.	.	.
B3CO 50	-0.075786246 B	-0.93	0.3506	0.08117150
B3CO 75	0.106396330 B	1.50	0.1337	0.07090701
B3CO 95	0.000000000 B	.	.	.
FTPCO 50	0.526664213 B	6.49	0.0001	0.08117150
FTPCO 75	0.225174044 B	3.18	0.0015	0.07090701
FTPCO 95	0.000000000 B	.	.	.
HFETCO 50	-0.280284458 B	-3.47	0.0005	0.08087730
HFETCO 75	-0.117518123 B	-1.67	0.0947	0.07027875
HFETCO 95	0.000000000 B	.	.	.
NYCCCO 50	0.000000000 B	.	.	.
NYCCCO 75	0.000000000 B	.	.	.
NYCCCO 95	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust CO Emissions

Model: lnCO = vehid*cycle vehid*coblend*oxy vehid*temp season cycle*temp



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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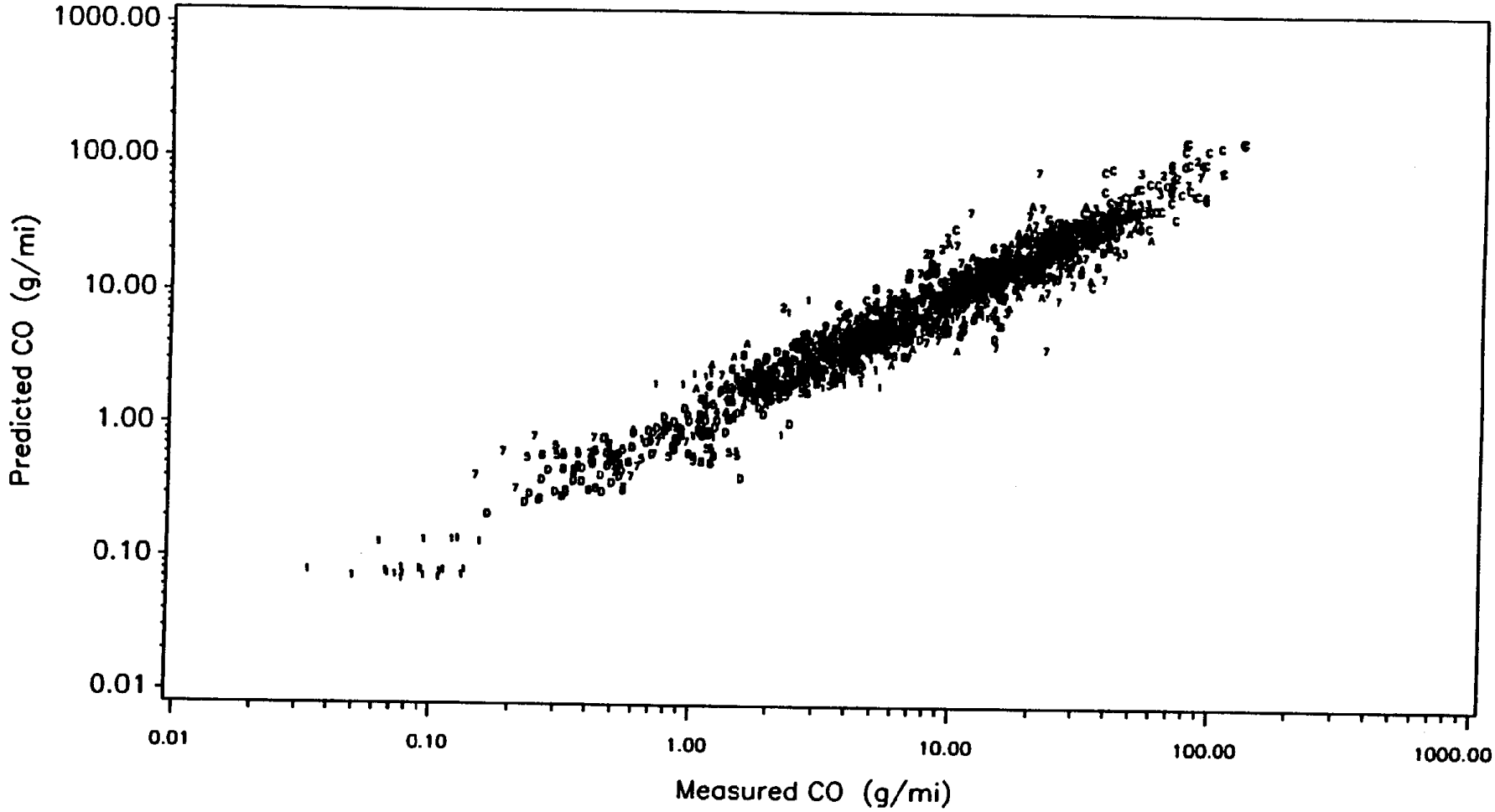
Total Exhaust CO Emissions

Model: lnCO = vehid*cycle vehid*coblend*oxy vehid*temp season cycle*temp



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust CO Emissions 1

Model: lnCO = vehid*cycle emstech*temp emstech*coblend*oxy season cycle*temp

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1CO B2CO B3CO FTPCO HFETCO NYCCCO
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1770

NOTE: Due to missing values, only 1667 observations can be used in this analysis.

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Total Exhaust CO Emissions 2

Model: lnCO = vehid*cycle emstech*temp emstech*coblend*oxy season cycle*temp

General Linear Models Procedure

Dependent Variable: LNCO

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	113	8731.0990526	77.2663633	447.01	0.0001
Error	1554	268.6139883	0.1728533		
Uncorrected Total	1667	8999.7130409			

R-Square	C.V.	Root MSE	LNCO Mean
0.907696	21.75263	0.4157563	1.9112921

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	78	8633.5913039	110.6870680	640.35	0.0001
TEMP*EMSTECH	8	37.2646239	4.6580780	26.95	0.0001
OXY*EMSTECH*COBLEND	16	10.6229617	0.6639351	3.84	0.0001
SEASON	1	1.5917410	1.5917410	9.21	0.0024
CYCLE*TEMP	10	48.0284220	4.8028422	27.79	0.0001

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	69	727.80318430	10.54787224	61.02	0.0001
TEMP*EMSTECH	6	25.87313251	4.31218875	24.95	0.0001
OXY*EMSTECH*COBLEND	16	11.26921513	0.70432595	4.07	0.0001
SEASON	1	1.59277042	1.59277042	9.21	0.0024
CYCLE*TEMP	10	48.02842205	4.80284220	27.79	0.0001

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
1 B1CO	1.618369112 B	14.75	0.0001	0.10972421
1 B2CO	-2.317880166 B	-21.12	0.0001	0.10972421
1 B3CO	1.276020985 B	11.63	0.0001	0.10972421
1 FTPCO	0.830249514 B	7.57	0.0001	0.10972421
1 HFETCO	0.423738748 B	4.00	0.0001	0.10590581
1 NYCCCO	2.325423721 B	21.78	0.0001	0.10676623
2 B1CO	4.078922595 B	34.53	0.0001	0.11811908
2 B2CO	3.116404111 B	26.38	0.0001	0.11811908

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General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 B3CO			
	3.540327258 B	29.97	0.0001	0.11811908
	2 FTPCO			
	3.506300284 B	29.68	0.0001	0.11811908
	2 HFETCO			
	2.924696979 B	25.41	0.0001	0.11507837
	2 NYCCCO			
	3.847443690 B	34.25	0.0001	0.11233840
	3 B1CO			
	3.958109134 B	27.33	0.0001	0.14483896
	3 B2CO			
	3.380613569 B	23.34	0.0001	0.14483896
	3 B3CO			
	3.372355283 B	23.28	0.0001	0.14483896
	3 FTPCO			
	3.527759298 B	24.36	0.0001	0.14483896
	3 HFETCO			
	3.129410499 B	21.63	0.0001	0.14470644
	3 NYCCCO			
	4.147620406 B	28.69	0.0001	0 14457972
	4 B1CO			
	1.776948645 B	16.30	0.0001	0.10901533
	4 B2CO			
	0.982624349 B	9.01	0.0001	0.10901533
	4 B3CO			
	1.231338521 B	11.30	0.0001	0.10901533
	4 FTPCO			
	1.280734909 B	11.75	0.0001	0.10901533
	4 HFETCO			
	0.606068457 B	5.57	0.0001	0.10877310
	4 NYCCCO			
	1.990439540 B	18.76	0.0001	0.10611985
	5 B1CO			
	2.050886558 B	18.35	0.0001	0.11176287
	5 B2CO			
	0.729759240 B	6.53	0.0001	0.11176287
	5 B3CO			
	1.021828256 B	9.14	0.0001	0.11176287
	5 FTPCO			
	1.303580712 B	11.66	0.0001	0.11176287
	5 HFETCO			
	-0.143811144 B	-1.29	0.1975	0.11155064
	5 NYCCCO			
	2.424086408 B	22.31	0.0001	0.10865772
	6 B1CO			
	2.048620859 B	18.33	0.0001	0.11176287

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	6 B2CO			
	1.021541658 B	9.14	0.0001	0.11176287
	6 B3CO			
	1.693183441 B	15.15	0.0001	0.11176287
	6 FTPCO			
	1.503768338 B	13.45	0.0001	0.11176287
	6 HFETCO			
	1.001688647 B	8.98	0.0001	0.11155064
	6 NYCCCO			
	2.835813597 B	25.47	0.0001	0.11136114
	7 B1CO			
	3.148929753 B	27.97	0.0001	0.11257405
	7 B2CO			
	2.427474972 B	21.56	0.0001	0.11257405
	7 B3CO			
	2.589818786 B	23.01	0.0001	0.11257405
	7 FTPCO			
	2.714111955 B	24.11	0.0001	0.11257405
	7 HFETCO			
	0.823484002 B	7.33	0.0001	0.11232424
	7 NYCCCO			
	3.833805313 B	34.20	0.0001	0.11209931
	8 B1CO			
	2.007169422 B	18.44	0.0001	0.10886042
	8 B2CO			
	1.044495640 B	9.59	0.0001	0.10886042
	8 B3CO			
	1.492992029 B	13.71	0.0001	0.10886042
	8 FTPCO			
	1.473393419 B	13.53	0.0001	0.10886042
	8 HFETCO			
	-0.397771596 B	-3.66	0.0003	0.10862947
	8 NYCCCO			
	2.791955056 B	25.75	0.0001	0 10842242
	9 B1CO			
	2.611854291 B	24.09	0.0001	0.10842723
	9 B2CO			
	1.705473520 B	15.73	0.0001	0.10842723
	9 B3CO			
	2.784270038 B	25.68	0.0001	0.10842723
	9 FTPCO			
	2.303159958 B	21.24	0.0001	0.10842723
	9 HFETCO			
	2.041083669 B	19.11	0.0001	0.10682681
	9 NYCCCO			
	3.584199104 B	33.19	0.0001	0.10798982

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	10 B1CO 3.144618152 B	25.57	0.0001	0.12299526
	10 B2CO 1.114823007 B	9.06	0.0001	0.12299526
	10 B3CO 2.645088788 B	21.51	0.0001	0.12299526
	10 FTPCO 2.404128511 B	19.55	0.0001	0.12299526
	10 HFETCO 2.355490636 B	19.64	0.0001	0.11996318
	10 NYCCCO 3.410062161 B	28.38	0.0001	0.12015967
	11 B1CO 3.185821184 B	27.25	0.0001	0.11689672
	11 B2CO 2.092069129 B	17.90	0.0001	0.11689672
	11 B3CO 3.165172197 B	27.08	0.0001	0.11689672
	11 FTPCO 2.747729558 B	23.51	0.0001	0.11689672
	11 HFETCO 1.586269053 B	13.74	0.0001	0.11548593
	11 NYCCCO 3.888866268 B	33.74	0.0001	0.11524627
	12 B1CO 3.556287879 B	29.79	0.0001	0.11939037
	12 B2CO 3.469019062 B	29.06	0.0001	0.11939037
	12 B3CO 3.352591731 B	28.08	0.0001	0.11939037
	12 FTPCO 3.381664178 B	28.32	0.0001	0.11939037
	12 HFETCO 2.540651909 B	21.87	0.0001	0.11615040
	12 NYCCCO 4.220491182 B	36.41	0.0001	0.11592791
	13 B1CO 2.489714013 B	22.28	0.0001	0.11176287
	13 B2CO -0.097621670 B	-0.87	0.3825	0.11176287
	13 B3CO 0.212495376 B	1.90	0.0574	0.11176287
	13 FTPCO 1.361338406 B	12.18	0.0001	0.11176287
	13 HFETCO -0.650985525 B	-5.84	0.0001	0.11155064

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	13 NYCCCO 1.705141980 B	15.81	0.0001	0.10782592
TEMP*EMSTECH	50 3wayAdaptive -0.259004537 B	-3.20	0.0014	0.08086671
	50 3wayNonadapt -1.020506019 B	-11.12	0.0001	0.09176499
	50 Noncatalyst -0.590573739 B	-4.30	0.0001	0.13734082
	50 Oxycatalyst -0.034016583 B	-0.34	0.7369	0.10121984
	75 3wayAdaptive -0.166897548 B	-2.49	0.0129	0.06701814
	75 3wayNonadapt -0.594857664 B	-7.70	0.0001	0.07722682
	75 Noncatalyst -0.452633763 B	-3.88	0.0001	0.11661702
	75 Oxycatalyst -0.084392236 B	-0.97	0.3301	0.08662715
	95 3wayAdaptive 0.000000000 B	.	.	.
	95 3wayNonadapt 0.000000000 B	.	.	.
	95 Noncatalyst 0.000000000 B	.	.	.
	95 Oxycatalyst 0.000000000 B	.	.	.
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE -0.013464815	-0.72	0.4689	0.01858524
	3wayAdaptive EtOH -0.007535172	-0.41	0.6838	0.01849638
	3wayAdaptive EtOH/SB 0.000133864	0.01	0.9941	0.01813929
	3wayAdaptive Low+OrigBase 0.000000000	.	.	.
	3wayAdaptive MTBE -0.012016446	-0.67	0.5043	0.01799206
	3wayNonadapt ETBE -0.104193501	-3.74	0.0002	0.02788948
	3wayNonadapt EtOH -0.089104817	-3.16	0.0016	0.02816257
	3wayNonadapt EtOH/SB -0.042224176	-1.56	0.1185	0.02703317
	3wayNonadapt Low+OrigBase 0.000000000	.	.	.
	3wayNonadapt MTBE -0.074376894	-2.71	0.0068	0.02744853

General Linear Models Procedure

Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst ETBE			
	-0.204139819	-4.09	0.0001	0.04985242
	Noncatalyst EtOH			
	-0.283666843	-5.34	0.0001	0.05307862
	Noncatalyst EtOH/SB			
	-0.229950177	-4.61	0.0001	0.04985242
	Noncatalyst Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst MTBE			
	-0.258500997	-5.32	0.0001	0.04861500
	Oxycatalyst ETBE			
	-0.051663910	-1.54	0.1243	0.03359941
	Oxycatalyst EtOH			
	-0.017303371	-0.52	0.6056	0.03350672
	Oxycatalyst EtOH/SB			
	0.031873341	0.99	0.3203	0.03206145
	Oxycatalyst Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst MTBE			
	-0.012380003	-0.39	0.7002	0.03214571
SEASON	Summer			
	-0.089079228 B	-3.04	0.0024	0.02934531
	Winter			
	0.000000000 B	.	.	.
CYCLE*TEMP	B1CO 50			
	1.046086440 B	10.46	0.0001	0.10004304
	B1CO 75			
	0.383749690 B	4.39	0.0001	0.08737750
	B1CO 95			
	0.000000000 B	.	.	.
	B2CO 50			
	-0.043290221 B	-0.43	0.6653	0.10004304
	B2CO 75			
	0.168300003 B	1.93	0.0543	0.08737750
	B2CO 95			
	0.000000000 B	.	.	.
	B3CO 50			
	-0.091630466 B	-0.92	0.3599	0.10004304
	B3CO 75			
	0.092795535 B	1.06	0.2884	0.08737750
	B3CO 95			
	0.000000000 B	.	.	.
	FTPCO 50			
	0.510819993 B	5.11	0.0001	0.10004304
	FTPCO 75			
	0.211573249 B	2.42	0.0156	0.08737750

General Linear Models Procedure

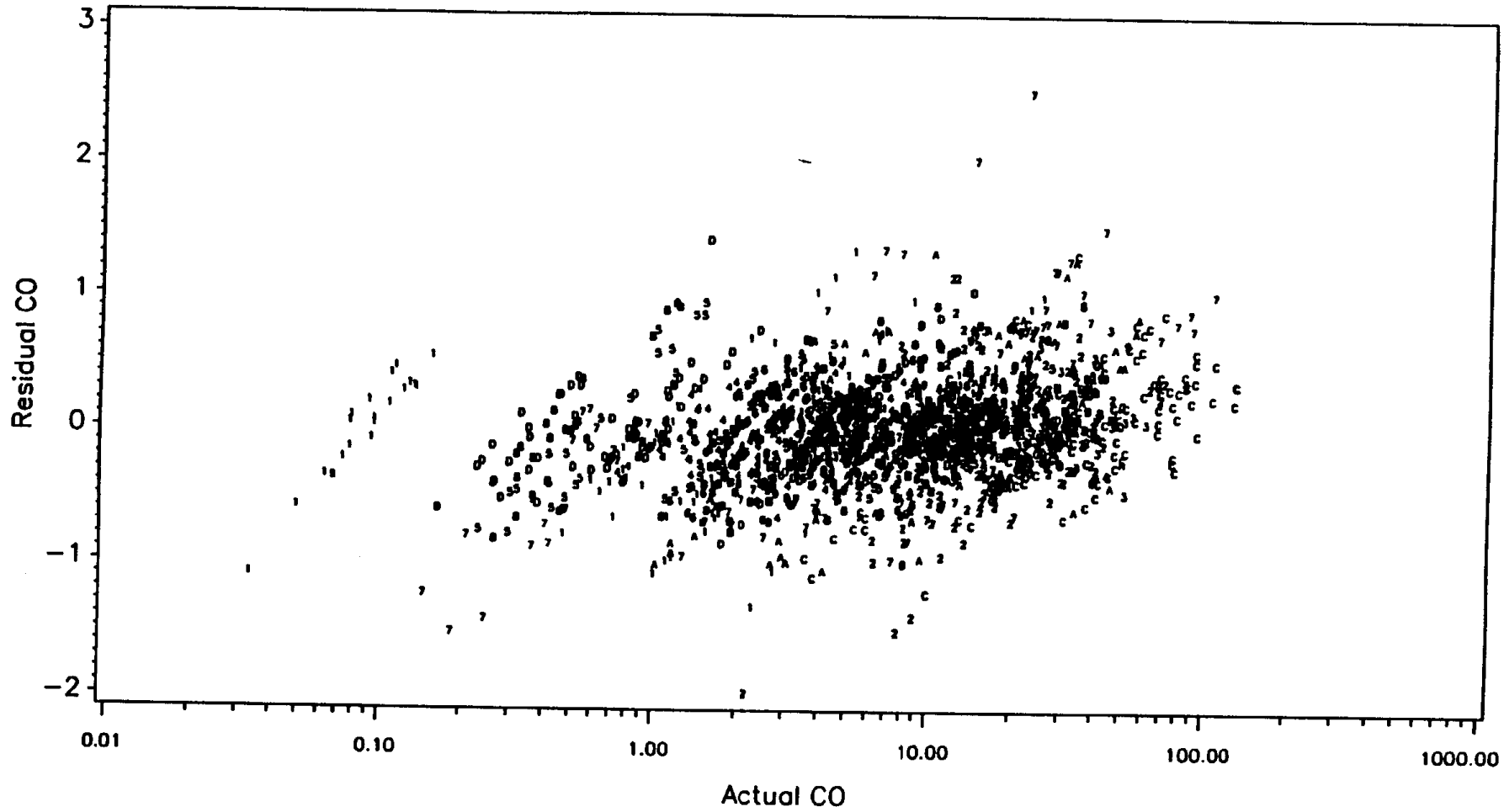
Dependent Variable: LNCO

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	FTPCO 95			
	0.000000000 B	.	.	.
	HFETCO 50			
	-0.290966916 B	-2.92	0.0036	0.09967161
	HFETCO 75			
	-0.127314089 B	-1.47	0.1417	0.08659408
	HFETCO 95			
	0.000000000 B	.	.	.
	NYCCCO 50			
	0.000000000 B	.	.	.
	NYCCCO 75			
	0.000000000 B	.	.	.
	NYCCCO 95			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust CO Emissions

Model: lnCO = vehid*cycle emstech*coblend*oxy emstech*temp season cycle*temp



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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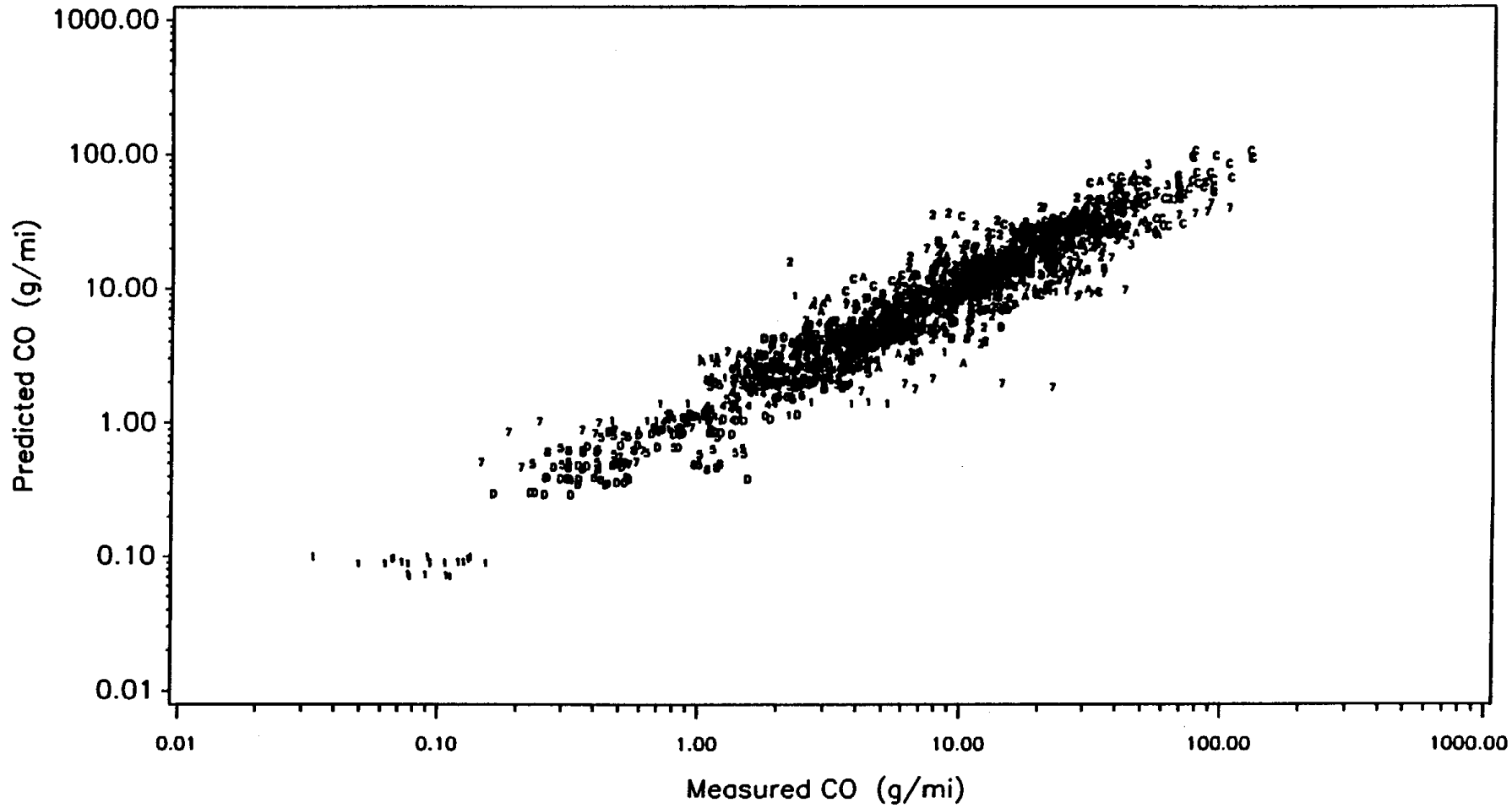
Total Exhaust CO Emissions

Model: lnCO = vehid*cycle emstech*coblend*oxy emstech*temp season cycle*temp



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust HC Emissions 1
Model: lnHC = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1HC B2HC B3HC FTPHC HFETHC NYCCHC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1770

NOTE: Due to missing values, only 1667 observations can be used in this analysis.

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Total Exhaust HC Emissions 2
Model: lnHC = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNHC

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	143	3687.2899468	25.7852444	187.58	0.0001
Error	1524	209.4974163	0.1374655		
Uncorrected Total	1667	3896.7873631			

R-Square	C.V.	Root MSE	LNHC Mean
0.935082	-58.49725	0.3707634	-0.6338134

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	78	3635.9143195	46.6142861	339.10	0.0001
OXY*VEHID*COBLEND	52	15.0307752	0.2890534	2.10	0.0001
CYCLE*TEMP	12	34.4256394	2.8688033	20.87	0.0001
SEASON	1	1.9192128	1.9192128	13.96	0.0002

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	72	569.22623627	7.90591995	57.51	0.0001
OXY*VEHID*COBLEND	52	14.48433809	0.27854496	2.03	0.0001
CYCLE*TEMP	12	36.31582529	3.02631877	22.02	0.0001
SEASON	1	1.91921277	1.91921277	13.96	0.0002

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 B1HC	-0.185893353 B	-1.70	0.0899	0.10952662
1 B2HC	-3.513298726 B	-32.08	0.0001	0.10952662
1 B3HC	-1.765859714 B	-16.12	0.0001	0.10952662
1 FTPHC	-1.353589963 B	-12.36	0.0001	0.10952662
1 HFETHC	-2.543249902 B	-23.80	0.0001	0.10686652
1 NYCCHC	-0.486184603 B	-4.51	0.0001	0.10773507
2 B1HC	1.152105419 B	9.97	0.0001	0.11554564
2 B2HC	0.223126162 B	1.93	0.0537	0.11554564
2 B3HC	0.484414254 B	4.19	0.0001	0.11554564

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General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTPHC			
	0.538580508 B	4.66	0.0001	0.11554564
	2 HFETHC			
	-0.416330227 B	-3.67	0.0003	0.11352297
	2 NYCCHC			
	1.354469456 B	12.13	0.0001	0.11168455
	3 B1HC			
	1.311824372 B	11.25	0.0001	0.11660936
	3 B2HC			
	0.796071578 B	6.83	0.0001	0.11660936
	3 B3HC			
	1.051561303 B	9.02	0.0001	0.11660936
	3 FTPHC			
	0.951528487 B	8.16	0.0001	0.11660936
	3 HFETHC			
	0.430218939 B	3.70	0.0002	0.11641108
	3 NYCCHC			
	1.906164569 B	16.40	0.0001	0.11624541
	4 B1HC			
	-0.067942218 B	-0.60	0.5500	0.11364625
	4 B2HC			
	-2.363399841 B	-20.80	0.0001	0.11364625
	4 B3HC			
	-1.657861390 B	-14.59	0.0001	0.11364625
	4 FTPHC			
	-1.153755244 B	-10.15	0.0001	0.11364625
	4 HFETHC			
	-2.777515250 B	-24.48	0.0001	0.11345669
	4 NYCCHC			
	-1.020539661 B	-9.14	0.0001	0.11163531
	5 B1HC			
	-0.135307213 B	-1.17	0.2418	0.11555115
	5 B2HC			
	-2.363452675 B	-20.45	0.0001	0.11555115
	5 B3HC			
	-1.936302828 B	-16.76	0.0001	0.11555115
	5 FTPHC			
	-1.222828904 B	-10.58	0.0001	0.11555115
	5 HFETHC			
	-2.876565157 B	-24.93	0.0001	0.11537876
	5 NYCCHC			
	-0.385238837 B	-3.40	0.0007	0.11339176
	6 B1HC			
	0.645834489 B	5.59	0.0001	0.11555399
	6 B2HC			
	-2.021175090 B	-17.49	0.0001	0.11555399

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	6 B3HC			
	0.143505745 B	1.24	0.2145	0.11555399
	6 FTPHC			
	-0.226952394 B	-1.96	0.0497	0.11555399
	6 HFETHC			
	-1.952405274 B	-16.92	0.0001	0.11538162
	6 NYCCHC			
	0.840827583 B	7.30	0.0001	0.11523590
	7 B1HC			
	0.329052407 B	3.06	0.0022	0.10743130
	7 B2HC			
	-0.890078298 B	-8.29	0.0001	0.10743130
	7 B3HC			
	-0.128923672 B	-1.20	0.2303	0.10743130
	7 FTPHC			
	-0.221233937 B	-2.06	0.0396	0.10743130
	7 HFETHC			
	-1.797872363 B	-16.76	0.0001	0.10725820
	7 NYCCHC			
	0.271833031 B	2.54	0.0113	0.10710835
	8 B1HC			
	-0.314712910 B	-2.77	0.0056	0.11354661
	8 B2HC			
	-1.250980398 B	-11.02	0.0001	0.11354661
	8 B3HC			
	-0.889438463 B	-7.83	0.0001	0.11354661
	8 FTPHC			
	-0.874060613 B	-7.70	0.0001	0.11354661
	8 HFETHC			
	-2.383484842 B	-21.02	0.0001	0.11336487
	8 NYCCHC			
	0.414468722 B	3.66	0.0003	0.11321069
	9 B1HC			
	-0.037424080 B	-0.34	0.7318	0.10915511
	9 B2HC			
	-1.887614796 B	-17.29	0.0001	0.10915511
	9 B3HC			
	-0.679074334 B	-6.22	0.0001	0.10915511
	9 FTPHC			
	-0.842204063 B	-7.72	0.0001	0.10915511
	9 HFETHC			
	-1.577505952 B	-14.56	0.0001	0.10835583
	9 NYCCHC			
	0.509884085 B	4.69	0.0001	0.10879927
	10 B1HC			
	1.090220510 B	9.49	0.0001	0.11491155

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 10 B2HC	0.501426477 B	4.36	0.0001	0.11491155
10 B3HC	0.851731047 B	7.41	0.0001	0.11491155
10 FTPHC	0.696550134 B	6.06	0.0001	0.11491155
10 HFETHC	0.207083549 B	1.87	0.0624	0.11102908
10 NYCCHC	1.918663024 B	17.13	0.0001	0.11198008
11 B1HC	0.495764975 B	4.33	0.0001	0.11444439
11 B2HC	-0.401513702 B	-3.51	0.0005	0.11444439
11 B3HC	0.320137361 B	2.80	0.0052	0.11444439
11 FTPHC	0.041935770 B	0.37	0.7141	0.11444439
11 HFETHC	-1.349019378 B	-11.87	0.0001	0.11366545
11 NYCCHC	1.084608173 B	9.56	0.0001	0.11350839
12 B1HC	1.114467470 B	10.41	0.0001	0.10702126
12 B2HC	0.810665800 B	7.57	0.0001	0.10702126
12 B3HC	0.759159975 B	7.09	0.0001	0.10702126
12 FTPHC	0.810982778 B	7.58	0.0001	0.10702126
12 HFETHC	-1.155341781 B	-11.24	0.0001	0.10274733
12 NYCCHC	2.518786275 B	24.56	0.0001	0.10255880
13 B1HC	0.201025604 B	1.75	0.0803	0.11487708
13 B2HC	-2.638334675 B	-22.97	0.0001	0.11487708
13 B3HC	-1.817098017 B	-15.82	0.0001	0.11487708
13 FTPHC	-0.986934065 B	-8.59	0.0001	0.11487708
13 HFETHC	-2.628918124 B	-22.92	0.0001	0.11470321
13 NYCCHC	-0.431305138 B	-3.88	0.0001	0.11108302

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 1 ETBE	-0.041701368	-0.99	0.3202	0.04193765
1 EtOH	0.038034812	0.92	0.3568	0.04126294
1 EtOH/SB	0.015374560	0.37	0.7140	0.04193765
1 Low+OrigBase	0.000000000	.	.	.
1 MTBE	-0.027217727	-0.66	0.5094	0.04123931
2 ETBE	-0.060903246	-1.39	0.1641	0.04375158
2 EtOH	-0.020931130	-0.48	0.6324	0.04375158
2 EtOH/SB	-0.041652089	-0.95	0.3413	0.04375801
2 Low+OrigBase	0.000000000	.	.	.
2 MTBE	-0.087764754	-2.00	0.0461	0.04396610
3 ETBE	-0.021763568	-0.49	0.6211	0.04401473
3 EtOH	-0.078592101	-1.72	0.0855	0.04567069
3 EtOH/SB	-0.049460837	-1.12	0.2613	0.04401473
3 Low+OrigBase	0.000000000	.	.	.
3 MTBE	-0.033876741	-0.79	0.4295	0.04286785
4 ETBE	-0.023388116	-0.53	0.5942	0.04389649
4 EtOH	0.100963850	2.31	0.0210	0.04368529
4 EtOH/SB	-0.006819729	-0.16	0.8766	0.04389649
4 Low+OrigBase	0.000000000	.	.	.
4 MTBE	0.021093309	0.53	0.5969	0.03988034
5 ETBE	-0.099773476	-2.27	0.0234	0.04398308
5 EtOH	-0.027898033	-0.64	0.5240	0.04377384
5 EtOH/SB	-0.122062147	-2.78	0.0056	0.04398308

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 5 Low+OrigBase	0.000000000	.	.	.
5 MTBE	-0.012957841	-0.29	0.7683	0.04398308
6 ETBE	-0.043573683	-0.99	0.3221	0.04399190
6 EtOH	-0.040177729	-0.91	0.3612	0.04399190
6 EtOH/SB	0.019659882	0.45	0.6550	0.04399190
6 Low+OrigBase	0.000000000	.	.	.
6 MTBE	-0.017540860	-0.40	0.6901	0.04399190
7 ETBE	-0.111960400	-2.67	0.0076	0.04190660
7 EtOH	-0.033286726	-0.79	0.4271	0.04190660
7 EtOH/SB	0.071716476	1.77	0.0774	0.04058826
7 Low+OrigBase	0.000000000	.	.	.
7 MTBE	-0.103638078	-2.70	0.0070	0.03835914
8 ETBE	0.003853193	0.09	0.9301	0.04394477
8 EtOH	0.008840089	0.20	0.8406	0.04394477
8 EtOH/SB	0.036256679	0.90	0.3709	0.04050582
8 Low+OrigBase	0.000000000	.	.	.
8 MTBE	-0.057796884	-1.43	0.1538	0.04050482
9 ETBE	-0.055576998	-1.33	0.1853	0.04194240
9 EtOH	0.029607721	0.71	0.4803	0.04194240
9 EtOH/SB	0.048108443	1.25	0.2111	0.03845329
9 Low+OrigBase	0.000000000	.	.	.
9 MTBE	-0.015591972	-0.38	0.7056	0.04125888
10 ETBE	-0.016529457	-0.38	0.7045	0.04358058

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 10 EtOH	-0.006357200	-0.15	0.8835	0.04336073
10 EtOH/SB	-0.009597986	-0.22	0.8239	0.04312509
10 Low+OrigBase	0.000000000	.	.	.
10 MTBE	-0.055777602	-1.29	0.1985	0.04336073
11 ETBE	-0.071196272	-1.67	0.0953	0.04265850
11 EtOH	-0.086951077	-1.98	0.0481	0.04395946
11 EtOH/SB	-0.059391114	-1.47	0.1430	0.04052459
11 Low+OrigBase	0.000000000	.	.	.
11 MTBE	0.005622323	0.13	0.8982	0.04395946
12 ETBE	0.051809047	1 26	0.2063	0.04098143
12 EtOH	0.032121679	0.78	0.4333	0.04098143
12 EtOH/SB	0.101364976	2.71	0.0068	0.03741083
12 Low+OrigBase	0.000000000	.	.	.
12 MTBE	0.093248001	2.49	0.0128	0.03741083
13 ETBE	0.018396892	0.42	0.6731	0.04360184
13 EtOH	-0.092892225	-2.13	0.0333	0.04360184
13 EtOH/SB	-0.046768615	-1.07	0.2836	0.04360184
13 Low+OrigBase	0.000000000	.	.	.
13 MTBE	-0.067533065	-1.57	0.1155	0.04288551
CYCLE*TEMP B1HC 50	0.453371174 B	6.61	0.0001	0.06858077
B1HC 75	-0.033191524 B	-0.58	0.5634	0.05743225
B1HC 95	0.000000000 B	.	.	.
B2HC 50	-0.395067668 B	-5.76	0.0001	0.06858077

Model: lnHC = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

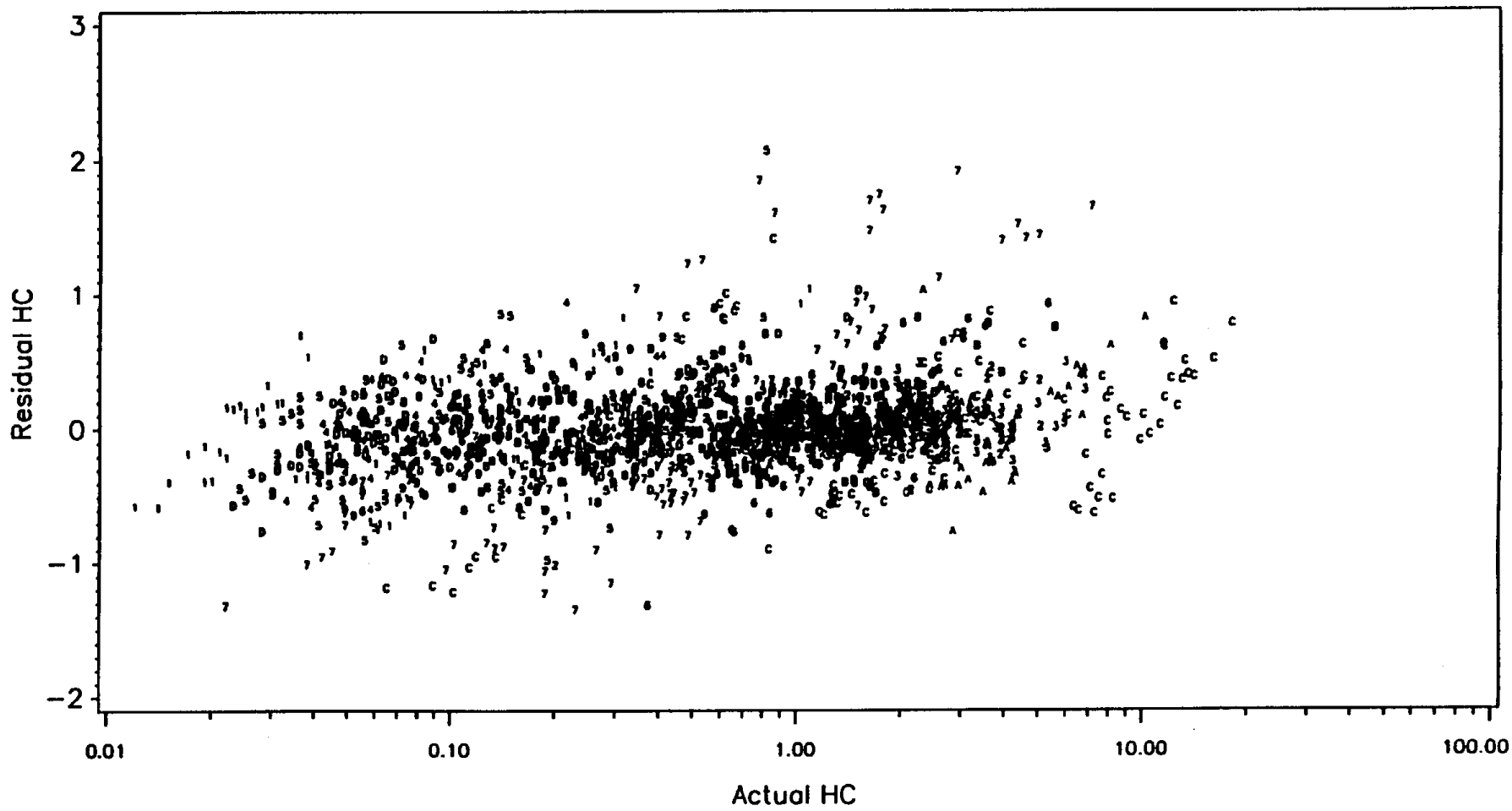
Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP B2HC 75	-0.230815513 B	-4.02	0.0001	0.05743225
B2HC 95	0.000000000 B	.	.	.
B3HC 50	-0.395871791 B	-5.77	0.0001	0.06858077
B3HC 75	-0.219109984 B	-3.82	0.0001	0.05743225
B3HC 95	0.000000000 B	.	.	.
FTPHC 50	0.066374307 B	0.97	0.3333	0.06858077
FTPHC 75	-0.136915850 B	-2.38	0.0172	0.05743225
FTPHC 95	0.000000000 B	.	.	.
HFETHC 50	-0.419694354 B	-6.16	0.0001	0.06815076
HFETHC 75	-0.297361787 B	-5.26	0.0001	0.05651109
HFETHC 95	0.000000000 B	.	.	.
NYCCHC 50	-0.396730776 B	-5.85	0.0001	0.06777019
NYCCHC 75	-0.399308805 B	-7.15	0.0001	0.05587977
NYCCHC 95	0.000000000 B	.	.	.
SEASON Summer	-0.097957703 B	-3.74	0.0002	0.02621645
Winter	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust HC Emissions

Model: lnHC = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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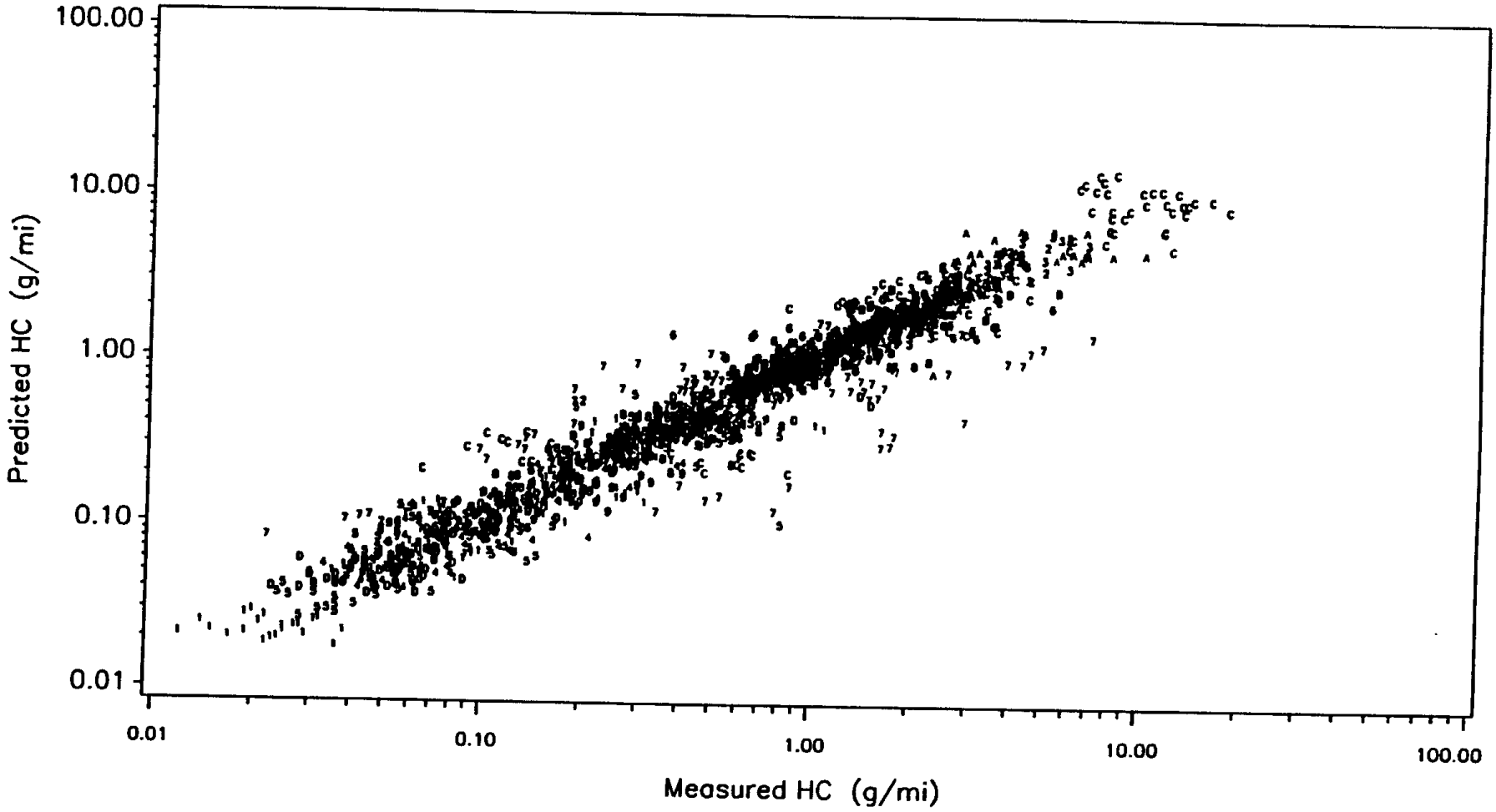
Total Exhaust HC Emissions

Model: lnHC = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust HC Emissions 1
Model: lnHC = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1HC B2HC B3HC FTPHC HFETHC NYCCHC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1770

NOTE: Due to missing values, only 1667 observations can be used in this analysis.

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Total Exhaust HC Emissions 2
Model: lnHC = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNHC

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	107	3677.1411154	34.3658048	244.08	0.0001
Error	1560	219.6462477	0.1407989		
Uncorrected Total	1667	3896.7873631			

R-Square	C.V.	Root MSE	LNHC Mean
0.931937	-59.20224	0.3752318	-0.6338134

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	78	3635.9143195	46.6142861	331.07	0.0001
OXY*EMSTECH*COBLEND	16	4.6199590	0.2887474	2.05	0.0083
CYCLE*TEMP	12	34.6596610	2.8883051	20.51	0.0001
SEASON	1	1.9471760	1.9471760	13.83	0.0002

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	72	748.61713683	10.39746023	73.85	0.0001
OXY*EMSTECH*COBLEND	16	4.33550668	0.27096917	1.92	0.0150
CYCLE*TEMP	12	36.59476782	3.04956399	21.66	0.0001
SEASON	1	1.94717601	1.94717601	13.83	0.0002

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 B1HC	-0.163671913 B	-1.67	0.0955	0.09812077
1 B2HC	-3.491077285 B	-35.58	0.0001	0.09812077
1 B3HC	-1.743638274 B	-17.77	0.0001	0.09812077
1 FTPHC	-1.331368522 B	-13.57	0.0001	0.09812077
1 HFETHC	-2.517106619 B	-26.58	0.0001	0.09466353
1 NYCCHC	-0.459939614 B	-4.82	0.0001	0.09534855
2 B1HC	1.153550758 B	11.12	0.0001	0.10372886
2 B2HC	0.224571501 B	2.16	0.0305	0.10372886
2 B3HC	0.485859593 B	4.68	0.0001	0.10372886

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General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTPHC			
	0.540025846 B	5.21	0.0001	0.10372886
	2 HFETHC			
	-0.418015487 B	-4.13	0.0001	0.10125694
	2 NYCCHC			
	1.362719611 B	13.76	0.0001	0.09904589
	3 B1HC			
	1.314113818 B	11.14	0.0001	0.11800470
	3 B2HC			
	0.798361023 B	6.77	0.0001	0.11800470
	3 B3HC			
	1.053850748 B	8.93	0.0001	0.11800470
	3 FTPHC			
	0.953817932 B	8.08	0.0001	0.11800470
	3 HFETHC			
	0.432278515 B	3.67	0.0003	0.11780543
	3 NYCCHC			
	1.911495128 B	16.25	0.0001	0.11762899
	4 B1HC			
	0.009175376 B	0.09	0.9250	0.09746359
	4 B2HC			
	-2.286282247 B	-23.46	0.0001	0.09746359
	4 B3HC			
	-1.580743796 B	-16.22	0.0001	0.09746359
	4 FTPHC			
	-1.076637650 B	-11.05	0.0001	0.09746359
	4 HFETHC			
	-2.700615347 B	-27.78	0.0001	0.09722760
	4 NYCCHC			
	-0.935494110 B	-9.86	0.0001	0.09490385
	5 B1HC			
	-0.228259835 B	-2.28	0.0226	0.10002732
	5 B2HC			
	-2.456405297 B	-24.56	0.0001	0.10002732
	5 B3HC			
	-2.029255450 B	-20.29	0.0001	0.10002732
	5 FTPHC			
	-1.315781527 B	-13.15	0.0001	0.10002732
	5 HFETHC			
	-2.969738058 B	-29.75	0.0001	0.09982142
	5 NYCCHC			
	-0.474078632 B	-4.87	0.0001	0.09728219
	6 B1HC			
	0.637979648 B	6.38	0.0001	0.10002732
	6 B2HC			
	-2.029029931 B	-20.28	0.0001	0.10002732

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	6 B3HC			
	0.135650904 B	1.36	0.1753	0.10002732
	6 FTPHC			
	-0.234807235 B	-2.35	0.0190	0.10002732
	6 HFETHC			
	-1.960480393 B	-19.64	0.0001	0.09982142
	6 NYCCHC			
	0.835805854 B	8.39	0.0001	0.09965036
	7 B1HC			
	0.347787547 B	3.52	0.0004	0.09869053
	7 B2HC			
	-0.871343057 B	-8.83	0.0001	0.09869053
	7 B3HC			
	-0.110188431 B	-1.12	0.2644	0.09869053
	7 FTPHC			
	-0.202498697 B	-2.05	0.0404	0.09869053
	7 HFETHC			
	-1.779371928 B	-18.07	0.0001	0.09849691
	7 NYCCHC			
	0.293293792 B	2.98	0.0029	0.09832784
	8 B1HC			
	-0.289435079 B	-2.97	0.0030	0.09734417
	8 B2HC			
	-1.225702567 B	-12.59	0.0001	0.09734417
	8 B3HC			
	-0.864160632 B	-8.88	0.0001	0.09734417
	8 FTPHC			
	-0.848782783 B	-8.72	0.0001	0.09734417
	8 HFETHC			
	-2.358438597 B	-24.28	0.0001	0.09712063
	8 NYCCHC			
	0.442648128 B	4.57	0.0001	0.09693336
	9 B1HC			
	-0.000126508 B	-0.00	0.9990	0.09692648
	9 B2HC			
	-1.850317225 B	-19.09	0.0001	0.09692648
	9 B3HC			
	-0.641776763 B	-6.62	0.0001	0.09692648
	9 FTPHC			
	-0.804906492 B	-8.30	0.0001	0.09692648
	9 HFETHC			
	-1.540824328 B	-16.15	0.0001	0.09543065
	9 NYCCHC			
	0.550083231 B	5.70	0.0001	0.09651593
	10 B1HC			
	0.991264590 B	9.37	0.0001	0.10579538

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	10 B2HC			
	0.402470557 B	3.80	0.0001	0.10579538
	10 B3HC			
	0.752775127 B	7.12	0.0001	0.10579538
	10 FTPHC			
	0.597594214 B	5.65	0.0001	0.10579538
	10 HFETHC			
	0.111255825 B	1.09	0.2775	0.10241987
	10 NYCCHC			
	1.820617034 B	17.78	0.0001	0.10242226
	11 B1HC			
	0.490785356 B	4.79	0.0001	0.10247555
	11 B2HC			
	-0.406493321 B	-3.97	0.0001	0.10247555
	11 B3HC			
	0.315157742 B	3.08	0.0021	0.10247555
	11 FTPHC			
	0.036956151 B	0.36	0.7184	0.10247555
	11 HFETHC			
	-1.352613545 B	-13.38	0.0001	0.10110325
	11 NYCCHC			
	1.084185438 B	10.74	0.0001	0.10091994
	12 B1HC			
	1.192008394 B	11.69	0.0001	0.10196386
	12 B2HC			
	0.888206724 B	8.71	0.0001	0.10196386
	12 B3HC			
	0.836700899 B	8.21	0.0001	0.10196386
	12 FTPHC			
	0.888523702 B	8.71	0.0001	0.10196386
	12 HFETHC			
	-1.084059923 B	-11.02	0.0001	0.09838740
	12 NYCCHC			
	2.593280175 B	26.43	0.0001	0.09811950
	13 B1HC			
	0.142803389 B	1.43	0.1536	0.10002732
	13 B2HC			
	-2.696556889 B	-26.96	0.0001	0.10002732
	13 B3HC			
	-1.875320231 B	-18.75	0.0001	0.10002732
	13 FTPHC			
	-1.045156279 B	-10.45	0.0001	0.10002732
	13 HFETHC			
	-2.687360617 B	-26.92	0.0001	0.09982142
	13 NYCCHC			
	-0.486263840 B	-5.05	0.0001	0.09635149

General Linear Models Procedure

Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE			
	-0.033488512	-2.01	0.0451	0.01669997
	3wayAdaptive EtOH			
	0.003974114	0.24	0.8111	0.01662637
	3wayAdaptive EtOH/SB			
	-0.003736457	-0.23	0.8187	0.01629914
	3wayAdaptive Low+OrigBase			
	0.000000000	.	.	.
	3wayAdaptive MTBE			
	-0.025304360	-1.57	0.1173	0.01614803
	3wayNonadapt ETBE			
	-0.081602014	-3.26	0.0011	0.02502870
	3wayNonadapt EtOH			
	-0.047700748	-1.89	0.0593	0.02527841
	3wayNonadapt EtOH/SB			
	-0.011456844	-0.47	0.6376	0.02431459
	3wayNonadapt Low+OrigBase			
	0.000000000	.	.	.
	3wayNonadapt MTBE			
	-0.067202057	-2.74	0.0062	0.02453492
	Noncatalyst ETBE			
	-0.021392073	-0.48	0.6311	0.04454478
	Noncatalyst EtOH			
	-0.077897445	-1.69	0.0921	0.04622022
	Noncatalyst EtOH/SB			
	-0.049089341	-1.10	0.2706	0.04454478
	Noncatalyst Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst MTBE			
	-0.033516290	-0.77	0.4399	0.04338423
	Oxycatalyst ETBE			
	0.023799693	0.79	0.4306	0.03019173
	Oxycatalyst EtOH			
	0.019435650	0.65	0.5187	0.03010623
	Oxycatalyst EtOH/SB			
	0.054996603	1.92	0.0550	0.02864018
	Oxycatalyst Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst MTBE			
	0.030415065	1.06	0.2896	0.02871273
CYCLE*TEMP	B1HC 50			
	0.446791105 B	6.44	0.0001	0.06936236
	B1HC 75			
	-0.035385530 B	-0.61	0.5427	0.05811639
	B1HC 95			
	0.000000000 B	.	.	.

Model: lnHC = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

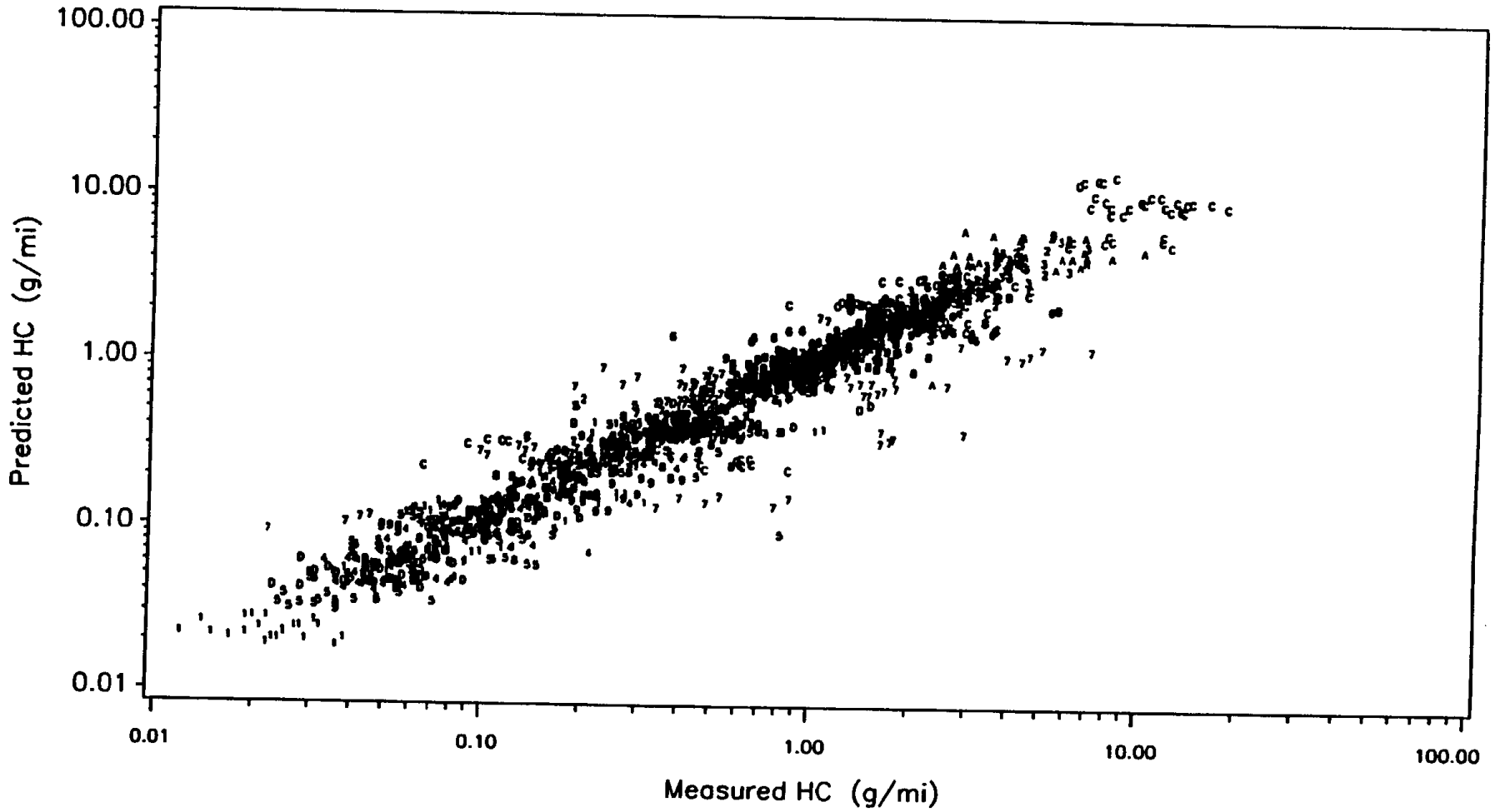
Dependent Variable: LNHC

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	B2HC 50			
	-0.401647737 B	-5.79	0.0001	0.06936236
	B2HC 75			
	-0.233009519 B	-4.01	0.0001	0.05811639
	B2HC 95			
	0.000000000 B	.	.	.
	B3HC 50			
	-0.402451861 B	-5.80	0.0001	0.06936236
	B3HC 75			
	-0.221303990 B	-3.81	0.0001	0.05811639
	B3HC 95			
	0.000000000 B	.	.	.
	FTPHC 50			
	0.059794238 B	0.86	0.3888	0.06936236
	FTPHC 75			
	-0.139109856 B	-2.39	0.0168	0.05811639
	FTPHC 95			
	0.000000000 B	.	.	.
	HFETHC 50			
	-0.425776938 B	-6.18	0.0001	0.06893128
	HFETHC 75			
	-0.299363979 B	-5.24	0.0001	0.05718277
	HFETHC 95			
	0.000000000 B	.	.	.
	NYCCHC 50			
	-0.406323204 B	-5.93	0.0001	0.06853033
	NYCCHC 75			
	-0.405662855 B	-7.18	0.0001	0.05652216
	NYCCHC 95			
	0.000000000 B	.	.	.
SEASON	Summer			
	-0.098456523 B	-3.72	0.0002	0.02647534
	Winter			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust HC Emissions

Model: lnHC = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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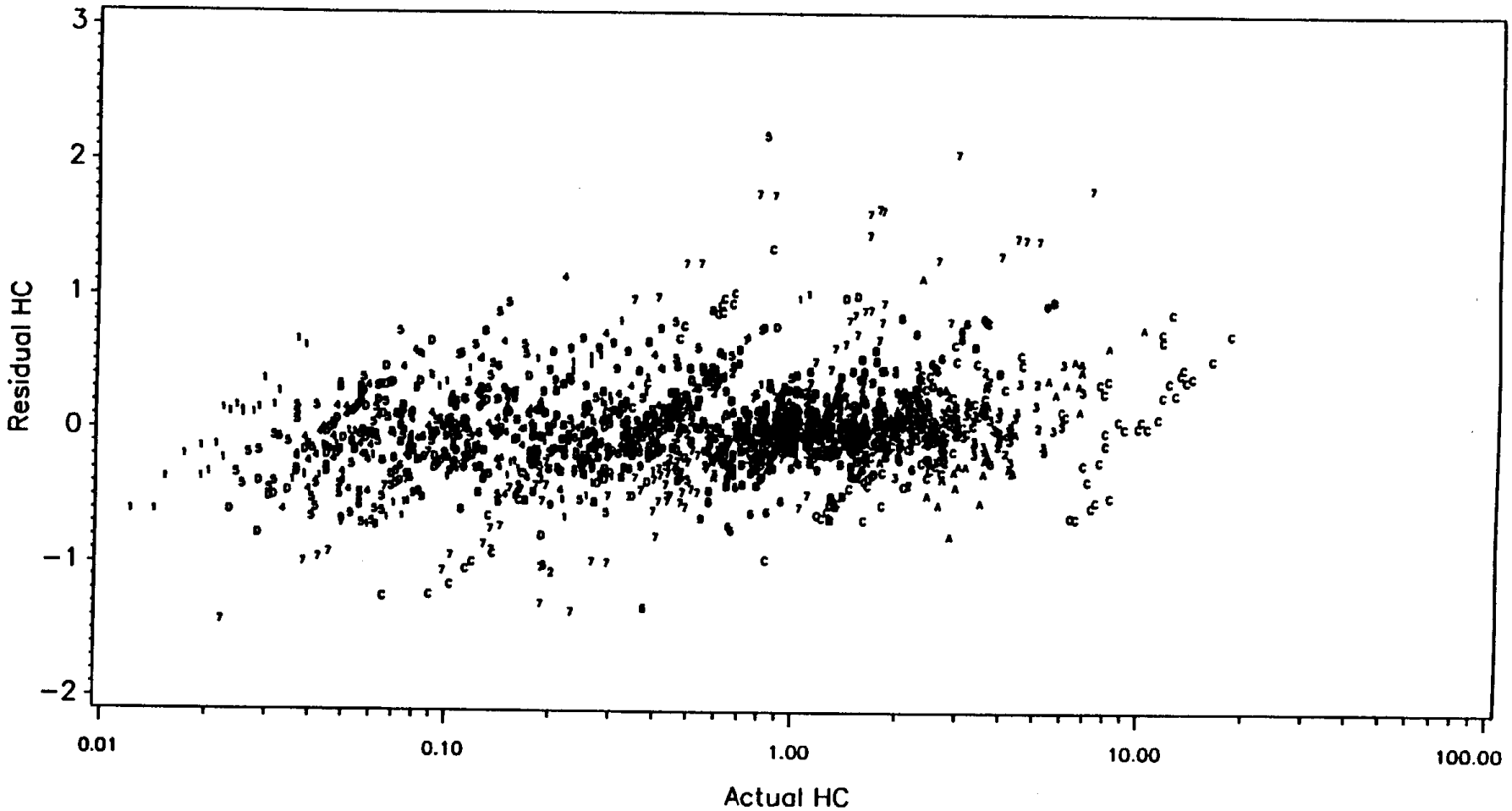
Total Exhaust HC Emissions

Model: lnHC = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust NOx Emissions 1
Model: NOx**0.2 = vehid vehid*cycle vehid*temp vehid*coblend*oxy

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1NOX B2NOX B3NOX FTPNOX HFETNOX NYCCNOX
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1767

NOTE: Due to missing values, only 1664 observations can be used in this analysis.

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Total Exhaust NOx Emissions 2
Model: NOx**0.2 = vehid vehid*cycle vehid*temp vehid*coblend*oxy

General Linear Models Procedure

Dependent Variable: NOX2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	156	1646.9230475	10.5571990	4828.06	0.0001
Error	1508	3.2974424	0.0021866		
Uncorrected Total	1664	1650.2204899			

R-Square	C.V.	Root MSE	NOX2 Mean
0.960445	4.818922	0.0467614	0.9703716

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	13	1631.2359755	125.4796904	57384.89	0.0001
VEHID*CYCLE	65	14.3434024	0.2206677	100.92	0.0001
VEHID*TEMP	26	0.9487074	0.0364887	16.69	0.0001
OXY*VEHID*COBLEND	52	0.3949621	0.0075954	3.47	0.0001

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	13	361.59357368	27.81489028	12720.42	0.0001
VEHID*CYCLE	65	14.31478820	0.22022751	100.72	0.0001
VEHID*TEMP	26	0.93978830	0.03614570	16.53	0.0001
OXY*VEHID*COBLEND	52	0.39496212	0.00759543	3.47	0.0001

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	1.054641979 B	75.19	0.0001	0.01402608
	2	1.421641178 B	101.83	0.0001	0.01396090
	3	1.296856566 B	85.77	0.0001	0.01512037
	4	0.847197830 B	60.60	0.0001	0.01397960
	5	0.954433988 B	66.84	0.0001	0.01428028
	6	1.001459143 B	63.28	0.0001	0.01582473
	7	1.156180484 B	85.17	0.0001	0.01357479
	8	1.211180866 B	84.94	0.0001	0.01425965
	9	0.708344224 B	50.69	0.0001	0.01397498
	10	1.293110856 B	90.60	0.0001	0.01427300
	11	1.179810398 B	82.32	0.0001	0.01433267
	12	1.160097259 B	86.84	0.0001	0.01335849
	13	0.734635358 B	50.30	0.0001	0.01460537
VEHID*CYCLE	1 B1NOX	-0.070410890 B	-4.98	0.0001	0.01412536
	1 B2NOX	-0.153410372 B	-10.86	0.0001	0.01412536

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General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	1 B3NOX			
	-0.239389019 B	-16.95	0.0001	0.01412536
	1 FTPNOX			
	-0.147800375 B	-10.46	0.0001	0.01412536
	1 HFETNOX			
	-0.391230395 B	-28.33	0.0001	0.01380794
	1 NYCCNOX			
	0.000000000 B	.	.	.
	2 B1NOX			
	-0.061204075 B	-4.23	0.0001	0.01446700
	2 B2NOX			
	-0.147888631 B	-10.22	0.0001	0.01446700
	2 B3NOX			
	-0.093995697 B	-6.50	0.0001	0.01446700
	2 FTPNOX			
	-0.110661588 B	-7.65	0.0001	0.01446700
	2 HFETNOX			
	-0.157825742 B	-11.05	0.0001	0.01428253
	2 NYCCNOX			
	0.000000000 B	.	.	.
	3 B1NOX			
	-0.068925501 B	-4.66	0.0001	0.01478727
	3 B2NOX			
	-0.138640144 B	-9.38	0.0001	0.01478727
	3 B3NOX			
	-0.046279236 B	-3.13	0.0018	0.01478727
	3 FTPNOX			
	-0.094907612 B	-6.42	0.0001	0.01478727
	3 HFETNOX			
	-0.138443655 B	-9.36	0.0001	0.01478727
	3 NYCCNOX			
	0.000000000 B	.	.	.
	4 B1NOX			
	0.120493962 B	8.64	0.0001	0.01395194
	4 B2NOX			
	-0.215988638 B	-15.48	0.0001	0.01395194
	4 B3NOX			
	-0.062626577 B	-4.49	0.0001	0.01395194
	4 FTPNOX			
	-0.050378177 B	-3.61	0.0003	0.01395194
	4 HFETNOX			
	-0.281938418 B	-20.21	0.0001	0.01395194
	4 NYCCNOX			
	0.000000000 B	.	.	.
	5 B1NOX			
	0.001045855 B	0.07	0.9430	0.01461804

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	5 B2NOX			
	-0.184496559 B	-12.62	0.0001	0.01461804
	5 B3NOX			
	-0.121068032 B	-8.28	0.0001	0.01461804
	5 FTPNOX			
	-0.114302062 B	-7.82	0.0001	0.01461804
	5 HFETNOX			
	-0.303027447 B	-20.73	0.0001	0.01461804
	5 NYCCNOX			
	0.000000000 B	.	.	.
	6 B1NOX			
	0.035963608 B	2.36	0.0183	0.01522197
	6 B2NOX			
	-0.248926245 B	-16.35	0.0001	0.01522197
	6 B3NOX			
	-0.104440448 B	-6.86	0.0001	0.01522197
	6 FTPNOX			
	-0.116386106 B	-7.65	0.0001	0.01522197
	6 HFETNOX			
	-0.332908354 B	-21.87	0.0001	0.01522197
	6 NYCCNOX			
	0.000000000 B	.	.	.
	7 B1NOX			
	0.150966930 B	10.95	0.0001	0.01378920
	7 B2NOX			
	-0.082468476 B	-5.98	0.0001	0.01378920
	7 B3NOX			
	0.055363017 B	4.01	0.0001	0.01378920
	7 FTPNOX			
	0.019317399 B	1.40	0.1614	0.01378920
	7 HFETNOX			
	0.067656017 B	4.91	0.0001	0.01378920
	7 NYCCNOX			
	0.000000000 B	.	.	
	8 B1NOX			
	-0.114638667 B	-8.13	0.0001	0.01409911
	8 B2NOX			
	-0.187198495 B	-13.28	0.0001	0.01409911
	8 B3NOX			
	-0.146243867 B	-10.37	0.0001	0.01409911
	8 FTPNOX			
	-0.158707811 B	-11.26	0.0001	0.01409911
	8 HFETNOX			
	-0.203839303 B	-14.46	0.0001	0.01409911
	8 NYCCNOX			
	0.000000000 B	.	.	.

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 B1NOX			
	0.181015432 B	12.84	0.0001	0.01409911
	9 B2NOX			
	-0.091925623 B	-6.52	0.0001	0.01409911
	9 B3NOX			
	-0.021989892 B	-1.56	0.1190	0.01409911
	9 FTPNOX			
	0.021162379 B	1.50	0.1336	0.01409911
	9 HFETNOX			
	-0.224823667 B	-16.11	0.0001	0.01395263
	9 NYCCNOX			
	0.000000000 B	.	.	.
	10 B1NOX			
	-0.162385460 B	-11.35	0.0001	0.01431058
	10 B2NOX			
	-0.175896837 B	-12.29	0.0001	0.01431058
	10 B3NOX			
	-0.150314837 B	-10.50	0.0001	0.01431058
	10 FTPNOX			
	-0.163356610 B	-11.42	0.0001	0.01431058
	10 HFETNOX			
	-0.235795333 B	-16.89	0.0001	0.01395666
	10 NYCCNOX			
	0.000000000 B	.	.	.
	11 B1NOX			
	0.081747852 B	5.73	0.0001	0.01427380
	11 B2NOX			
	-0.157162868 B	-11.01	0.0001	0.01427380
	11 B3NOX			
	-0.038576645 B	-2.70	0.0070	0.01427380
	11 FTPNOX			
	-0.054919449 B	-3.85	0.0001	0.01427380
	11 HFETNOX			
	-0.071188521 B	-5.05	0.0001	0.01409911
	11 NYCCNOX			
	0.000000000 B	.	.	.
	12 B1NOX			
	-0.103131860 B	-7.62	0.0001	0.01352630
	12 B2NOX			
	-0.157496887 B	-11.64	0.0001	0.01352630
	12 B3NOX			
	-0.078504552 B	-5.80	0.0001	0.01352630
	12 FTPNOX			
	-0.121639354 B	-8.99	0.0001	0.01352630
	12 HFETNOX			
	-0.119630534 B	-9.05	0.0001	0.01322613

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	12 NYCCNOX			
	0.000000000 B	.	.	.
	13 B1NOX			
	0.091795163 B	6.27	0.0001	0.01464316
	13 B2NOX			
	-0.119365433 B	-8.15	0.0001	0.01464316
	13 B3NOX			
	-0.030737920 B	-2.10	0.0360	0.01464316
	13 FTPNOX			
	-0.026929817 B	-1.84	0.0661	0.01464316
	13 HFETNOX			
	-0.171371822 B	-11.70	0.0001	0.01464316
	13 NYCCNOX			
	0.000000000 B	.	.	.
VEHID*TEMP	1 50 0.006654089 B	0.55	0.5851	0.01218459
	1 75 -0.023897438 B	-2.36	0.0184	0.01012811
	1 95 0.000000000 B	.	.	.
	2 50 -0.101890653 B	-8.47	0.0001	0.01203511
	2 75 -0.046649663 B	-4.57	0.0001	0.01020975
	2 95 0.000000000 B	.	.	.
	3 50 -0.024587711 B	-1.85	0.0645	0.01329103
	3 75 -0.016008097 B	-1.40	0.1616	0.01143088
	3 95 0.000000000 B	.	.	.
	4 50 -0.022407213 B	-1.83	0.0668	0.01221365
	4 75 -0.027141771 B	-2.65	0.0080	0.01022626
	4 95 0.000000000 B	.	.	.
	5 50 -0.001453319 B	-0.12	0.9054	0.01222117
	5 75 -0.000733448 B	-0.07	0.9439	0.01041646
	5 95 0.000000000 B	.	.	.
	6 50 0.011168419 B	0.90	0.3676	0.01239095
	6 75 -0.025217116 B	-2.36	0.0182	0.01066861
	6 95 0.000000000 B	.	.	.
	7 50 -0.089221226 B	-8.24	0.0001	0.01082415
	7 75 -0.121279486 B	-12.18	0.0001	0.00995420
	7 95 0.000000000 B	.	.	.
	8 50 -0.073154819 B	-6.11	0.0001	0.01197082
	8 75 -0.072993459 B	-7.00	0.0001	0.01043086
	8 95 0.000000000 B	.	.	.
	9 50 -0.006576806 B	-0.57	0.5704	0.01158673
	9 75 -0.012460666 B	-1.20	0.2308	0.01039355
	9 95 0.000000000 B	.	.	.
	10 50			
	0.030570454 B	2.48	0.0132	0.01231506
	10 75			
	-0.000166430 B	-0.02	0.9872	0.01039349

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*TEMP 10 95	0.000000000 B	.	.	.
11 50	-0.083705576 B	-6.80	0.0001	0.01231360
11 75	0.000766956 B	0.07	0.9412	0.01039525
11 95	0.000000000 B	.	.	.
12 50	-0.052104245 B	-4.71	0.0001	0.01106076
12 75	-0.030671446 B	-2.96	0.0032	0.01037164
12 95	0.000000000 B	.	.	.
13 50	0.042474189 B	3.42	0.0007	0.01243674
13 75	0.018390392 B	1.73	0.0833	0.01061114
13 95	0.000000000 B	.	.	.
OXY*VEHID*COBLEND 1 ETBE	-0.004311891	-0.81	0.4202	0.00534808
1 EtOH	-0.007695055	-1.47	0.1430	0.00525105
1 EtOH/SB	0.003439376	0.64	0.5203	0.00534808
1 Low+OrigBase	0.000000000	.	.	.
1 MTBE	-0.009551668	-1.82	0.0693	0.00525453
2 ETBE	0.004273412	0.77	0.4430	0.00556895
2 EtOH	0.015425185	2.77	0.0057	0.00556895
2 EtOH/SB	0.011747902	2.11	0.0351	0.00556913
2 Low+OrigBase	0.000000000	.	.	.
2 MTBE	0.000416864	0.07	0.9407	0.00560718
3 ETBE	-0.009613724	-1.72	0.0863	0.00560074
3 EtOH	-0.010293227	-1.73	0.0845	0.00596302
3 EtOH/SB	-0.006944945	-1.24	0.2152	0.00560074

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 3 Low+OrigBase	0.000000000	.	.	.
3 MTBE	-0.007046428	-1.29	0.1975	0.00546593
4 ETBE	-0.013194702	-2.36	0.0184	0.00559324
4 EtOH	0.011887665	2.14	0.0325	0.00555509
4 EtOH/SB	0.010660684	1.91	0.0568	0.00559324
4 Low+OrigBase	0.000000000	.	.	.
4 MTBE	-0.006318575	-1.24	0.2165	0.00510992
5 ETBE	0.001430631	0.26	0.7986	0.00560719
5 EtOH	-0.000080475	-0.01	0.9885	0.00556918
5 EtOH/SB	0.006825874	1.22	0.2237	0.00560719
5 Low+OrigBase	0.000000000	.	.	
5 MTBE	-0.004765268	-0.85	0.3955	0.00560719
6 ETBE	-0.010021554	-1.75	0.0798	0.00571681
6 EtOH	0.000586457	0.10	0.9183	0.00571681
6 EtOH/SB	0.006116055	1.07	0.2849	0.00571681
6 Low+OrigBase	0.000000000	.	.	.
6 MTBE	-0.014212550	-2.49	0.0130	0.00571681
7 ETBE	0.007042345	1.33	0.1843	0.00530146
7 EtOH	0.011697402	2.21	0.0275	0.00530146
7 EtOH/SB	-0.011430453	-2.23	0.0256	0.00511612
7 Low+OrigBase	0.000000000	.	.	.
7 MTBE	0.004903342	1.00	0.3162	0.00489061
8 ETBE	-0.000536259	-0.10	0.9238	0.00560281

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 8 EtOH	0.000376860	0.07	0.9464	0.00560281
8 EtOH/SB	0.007152632	1.38	0.1668	0.00517146
8 Low+OrigBase	0.000000000	.	.	.
8 MTBE	-0.007537473	-1.43	0.1534	0.00527744
9 ETBE	-0.000961804	-0.18	0.8561	0.00530302
9 EtOH	-0.008181098	-1.54	0.1231	0.00530302
9 EtOH/SB	-0.003579289	-0.73	0.4645	0.00489212
9 Low+OrigBase	0.000000000	.	.	.
9 MTBE	-0.007373485	-1.41	0.1580	0.00522049
10 ETBE	0.020012780	3.60	0.0003	0.00555378
10 EtOH	0.023456753	4.24	0.0001	0.00552630
10 EtOH/SB	0.015058666	2.74	0.0062	0.00549737
10 Low+OrigBase	0.000000000	.	.	.
10 MTBE	0.015742007	2.85	0.0045	0.00552630
11 ETBE	-0.017289176	-3.18	0.0015	0.00543546
11 EtOH	0.001442502	0.26	0.7968	0.00560122
11 EtOH/SB	0.004166351	0.81	0.4206	0.00517121
11 Low+OrigBase	0.000000000	.	.	.
11 MTBE	-0.005478501	-0.98	0.3282	0.00560122
12 ETBE	0.004781881	0.92	0.3555	0.00517327
12 EtOH	0.007365213	1.42	0.1547	0.00517327
12 EtOH/SB	0.000232462	0.05	0.9612	0.00477161
12 Low+OrigBase	0.000000000	.	.	.

General Linear Models Procedure

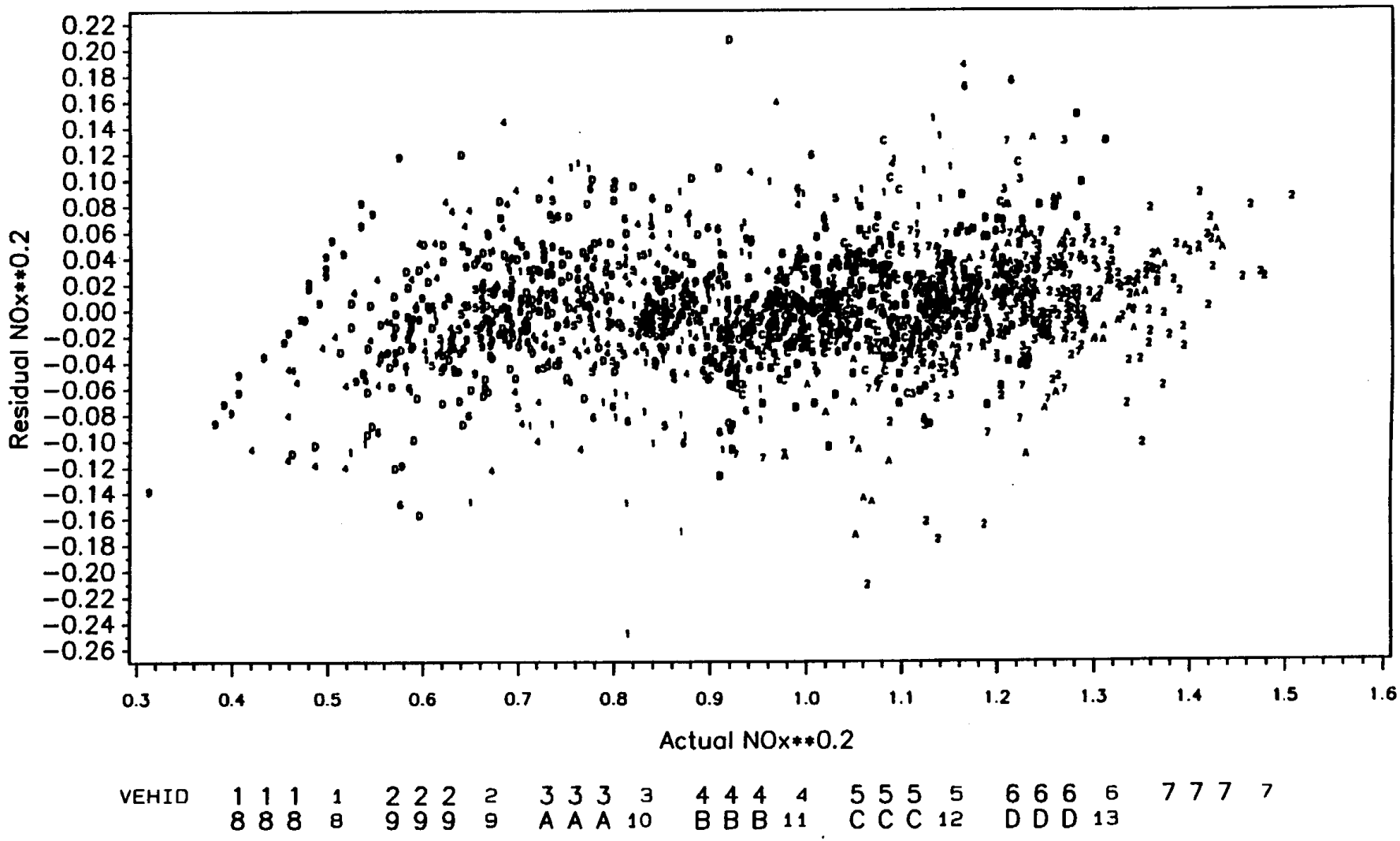
Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 12 MTBE	-0.002664660	-0.56	0.5766	0.00477161
13 ETBE	-0.012283767	-2.21	0.0272	0.00555598
13 EtOH	-0.006157045	-1.11	0.2680	0.00555598
13 EtOH/SB	0.000640067	0.11	0.9091	0.00560510
13 Low+OrigBase	0.000000000	.	.	.
13 MTBE	-0.023083386	-4.23	0.0001	0.00546335

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust NOx Emissions

Model: NOx**0.2 = vehid vehid*cycle vehid*temp vehid*coblend*oxy



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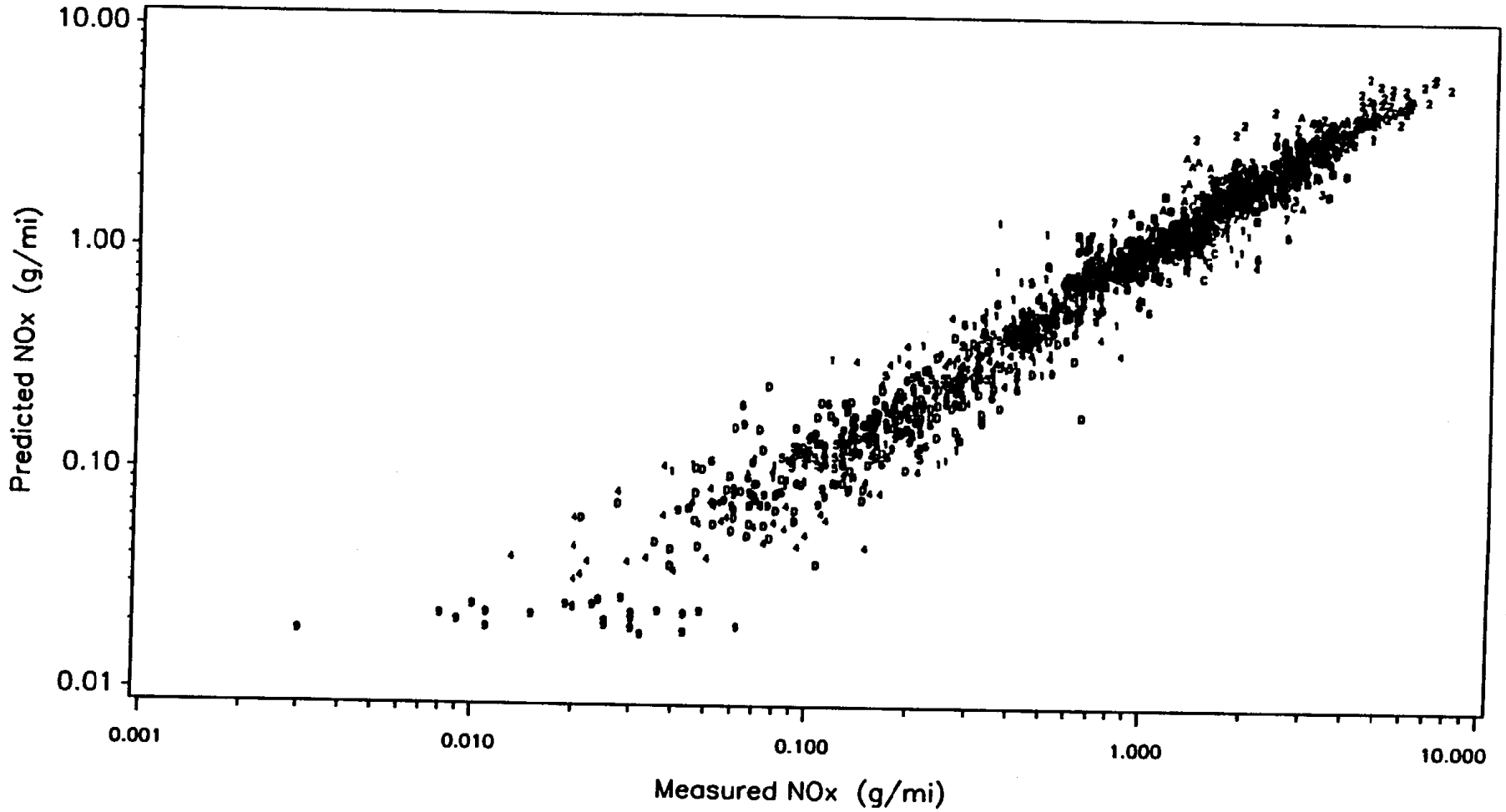
Total Exhaust NOx Emissions

Model: NOx**0.2 = vehid vehid*cycle vehid*temp vehid*coblend*oxy



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust NOx Emissions 1
Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1NOX B2NOX B3NOX FTPNOX HFETNOX NYCCNOX
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1767

NOTE: Due to missing values, only 1664 observations can be used in this analysis.

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Total Exhaust NOx Emissions 2
Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy

General Linear Models Procedure

Dependent Variable: NOX2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	58	1643.9372872	28.3437463	7244.72	0.0001
Error	1606	6.2832027	0.0039123		
Uncorrected Total	1664	1650.2204899			

R-Square	C.V.	Root MSE	NOX2 Mean
0.924629	6.445843	0.0625486	0.9703716

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	13	1631.2359755	125.4796904	32072.88	0.0001
CYCLE*EMSTECH	20	11.9874244	0.5993712	153.20	0.0001
TEMP*EMSTECH	8	0.4914991	0.0614374	15.70	0.0001
OXY*EMSTECH*COBLEND	16	0.2223624	0.0138977	3.55	0.0001
SEASON	1	0.0000257	0.0000257	0.01	0.9354

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	9	15.56430558	1.72936729	442.03	0.0001
CYCLE*EMSTECH	20	11.99514615	0.59975731	153.30	0.0001
TEMP*EMSTECH	8	0.39732400	0.04966550	12.69	0.0001
OXY*EMSTECH*COBLEND	16	0.22237043	0.01389815	3.55	0.0001
SEASON	1	0.00002573	0.00002573	0.01	0.9354

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	0.986227800 B	98.41	0.0001	0.01002186
	2	1.370566018 B	108.15	0.0001	0.01267255
	3	1.296461393 B	62.32	0.0001	0.02080383
	4	0.865654190 B	85.20	0.0001	0.01015989
	5	0.952621611 B	93.23	0.0001	0.01021767
	6	0.972772256 B	93.87	0.0001	0.01036294
	7	1.194738726 B	95.36	0.0001	0.01252936
	8	1.137291675 B	111.92	0.0001	0.01016166
	9	0.785105952 B	78.15	0.0001	0.01004627
	10	1.301325168 B	89.73	0.0001	0.01450223
	11	1.190502265 B	93.18	0.0001	0.01277594
	12	1.151647631 B	80.11	0.0001	0.01437665
	13	0.809868004 B	79.27	0.0001	0.01021638
CYCLE*EMSTECH	B1NOX 3wayAdaptive	0.035052478 B	4.83	0.0001	0.00726106

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General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*EMSTECH	B1NOX 3wayNonadapt 0.059861984 B	5.47	0.0001	0.01093593
	B1NOX Noncatalyst -0.068925501 B	-3.48	0.0005	0.01977961
	B1NOX Oxycatalyst -0.131994691 B	-10.04	0.0001	0.01314457
	B2NOX 3wayAdaptive -0.171603869 B	-23.63	0.0001	0.00726106
	B2NOX 3wayNonadapt -0.129510368 B	-11.84	0.0001	0.01093593
	B2NOX Noncatalyst -0.138640144 B	-7.01	0.0001	0.01977961
	B2NOX Oxycatalyst -0.167358021 B	-12.73	0.0001	0.01314457
	B3NOX 3wayAdaptive -0.103992724 B	-14.32	0.0001	0.00726106
	B3NOX 3wayNonadapt -0.024224529 B	-2.22	0.0269	0.01093593
	B3NOX Noncatalyst -0.046279236 B	-2.34	0.0194	0.01977961
	B3NOX Oxycatalyst -0.113207702 B	-8.61	0.0001	0.01314457
	FTPNOX 3wayAdaptive -0.084669337 B	-11.66	0.0001	0.00726106
	FTPNOX 3wayNonadapt -0.047748997 B	-4.37	0.0001	0.01093593
	FTPNOX Noncatalyst -0.094907612 B	-4.80	0.0001	0.01977961
	FTPNOX Oxycatalyst -0.142345747 B	-10.83	0.0001	0.01314457
	HFETNOX 3wayAdaptive -0.273407567 B	-37.85	0.0001	0.00722359
	HFETNOX 3wayNonadapt -0.051251924 B	-4.72	0.0001	0.01084915
	HFETNOX Noncatalyst -0.138443655 B	-7.00	0.0001	0.01977961
	HFETNOX Oxycatalyst -0.174903265 B	-13.62	0.0001	0.01283888
	NYCCNOX 3wayAdaptive 0.000000000 B	.	.	.
	NYCCNOX 3wayNonadapt 0.000000000 B	.	.	.
	NYCCNOX Noncatalyst 0.000000000 B	.	.	.
	NYCCNOX Oxycatalyst 0.000000000 B	.	.	.

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
TEMP*EMSTECH	50 3wayAdaptive -0.006459914 B	-0.87	0.3859	0.00744858
	50 3wayNonadapt -0.087945814 B	-8.85	0.0001	0.00993632
	50 Noncatalyst -0.024249173 B	-1.33	0.1844	0.01826169
	50 Oxycatalyst -0.014993146 B	-1.27	0.2027	0.01176523
	75 3wayAdaptive -0.020872105 B	-3.67	0.0003	0.00569373
	75 3wayNonadapt -0.055270019 B	-6.79	0.0001	0.00813600
	75 Noncatalyst -0.015856072 B	-1.03	0.3035	0.01540455
	75 Oxycatalyst -0.014584652 B	-1.45	0.1465	0.01003899
	95 3wayAdaptive 0.000000000 B	.	.	
	95 3wayNonadapt 0.000000000 B	.	.	
	95 Noncatalyst 0.000000000 B	.	.	
	95 Oxycatalyst 0.000000000 B	.	.	
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE -0.005474033	-1.95	0.0510	0.00280295
	3wayAdaptive EtOH -0.001237453	-0.44	0.6573	0.00278911
	3wayAdaptive EtOH/SB 0.004527259	1.65	0.0985	0.00273857
	3wayAdaptive Low+OrigBase 0.000000000	.	.	.
	3wayAdaptive MTBE -0.010473680	-3.86	0.0001	0.00271345
	3wayNonadapt ETBE -0.002586993	-0.62	0.5375	0.00419495
	3wayNonadapt EtOH 0.008979149	2.12	0.0342	0.00423666
	3wayNonadapt EtOH/SB 0.002196699	0.54	0.5892	0.00406677
	3wayNonadapt Low+OrigBase 0.000000000	.		
	3wayNonadapt MTBE 0.000644196	0.16	0.8761	0.00412952
	Noncatalyst ETBE -0.009584813	-1.28	0.2014	0.00750008

Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst EtOH			
	-0.010262060	-1.29	0.1989	0.00798545
	Noncatalyst EtOH/SB			
	-0.006916035	-0.92	0.3566	0.00750008
	Noncatalyst Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst MTBE			
	-0.007030534	-0.96	0.3366	0.00731391
	Oxycatalyst ETBE			
	0.012418497	2.46	0.0141	0.00505363
	Oxycatalyst EtOH			
	0.015591408	3.09	0.0020	0.00503862
	Oxycatalyst EtOH/SB			
	0.006348602	1.32	0.1881	0.00482095
	Oxycatalyst Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst MTBE			
	0.005254604	1.09	0.2772	0.00483379
SEASON	Summer			
	0.000358316 B	0.08	0.9354	0.00441809
	Winter			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

K.7.3.

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
CYCLE	6	B1NOX B2NOX B3NOX FTPNOX HFETNOX NYCCNOX
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 1767

NOTE: Due to missing values, only 1664 observations can be used in this analysis.

General Linear Models Procedure

Dependent Variable: NOX2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	57	1643.9372614	28.8410046	7376.38	0.0001
Error	1607	6.2832285	0.0039099		
Uncorrected Total	1664	1650.2204899			

R-Square	C.V.	Root MSE	NOX2 Mean
0.924628	6.443850	0.0625293	0.9703716

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	13	1631.2359755	125.4796904	32092.72	0.0001
CYCLE*EMSTECH	20	11.9874244	0.5993712	153.30	0.0001
TEMP*EMSTECH	8	0.4914991	0.0614374	15.71	0.0001
OXY*EMSTECH*COBLEND	16	0.2223624	0.0138977	3.55	0.0001

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	9	15.56557749	1.72950861	442.34	0.0001
CYCLE*EMSTECH	20	11.99530287	0.59976514	153.40	0.0001
TEMP*EMSTECH	8	0.48131169	0.06016396	15.39	0.0001
OXY*EMSTECH*COBLEND	16	0.22236241	0.01389765	3.55	0.0001

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	0.986621817 B	112.59	0.0001	0.00876284
	2	1.370970951 B	117.74	0.0001	0.01164393
	3	1.296856566 B	64.14	0.0001	0.02021892
	4	0.866058344 B	97.85	0.0001	0.00885110
	5	0.953024388 B	106.76	0.0001	0.00892678
	6	0.973177284 B	107.21	0.0001	0.00907739
	7	1.195141831 B	103.95	0.0001	0.01149777
	8	1.137688321 B	127.76	0.0001	0.00890457
	9	0.785498345 B	89.24	0.0001	0.00880176
	10	1.301727474 B	95.55	0.0001	0.01362327
	11	1.190897785 B	100.88	0.0001	0.01180488
	12	1.152044060 B	85.24	0.0001	0.01351601
	13	0.810267518 B	90.56	0.0001	0.00894756
CYCLE*EMSTECH	B1NOX 3wayAdaptive	0.035052936 B	4.83	0.0001	0.00725882
	B1NOX 3wayNonadapt	0.059864041 B	5.48	0.0001	0.01093252

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*EMSTECH	B1NOX Noncatalyst -0.068925501 B	-3.49	0.0005	0.01977350
	B1NOX Oxycatalyst -0.132004173 B	-10.05	0.0001	0.01313998
	B2NOX 3wayAdaptive -0.171603411 B	-23.64	0.0001	0.00725882
	B2NOX 3wayNonadapt -0.129508312 B	-11.85	0.0001	0.01093252
	B2NOX Noncatalyst -0.138640144 B	-7.01	0.0001	0.01977350
	B2NOX Oxycatalyst -0.167367503 B	-12.74	0.0001	0.01313998
	B3NOX 3wayAdaptive -0.103992265 B	-14.33	0.0001	0.00725882
	B3NOX 3wayNonadapt -0.024222473 B	-2.22	0.0269	0.01093252
	B3NOX Noncatalyst -0.046279236 B	-2.34	0.0194	0.01977350
	B3NOX Oxycatalyst -0.113217184 B	-8.62	0.0001	0.01313998
	FTPNOX 3wayAdaptive -0.084668879 B	-11.66	0.0001	0.00725882
	FTPNOX 3wayNonadapt -0.047746940 B	-4.37	0.0001	0.01093252
	FTPNOX Noncatalyst -0.094907612 B	-4.80	0.0001	0.01977350
	FTPNOX Oxycatalyst -0.142355229 B	-10.83	0.0001	0.01313998
	HFETNOX 3wayAdaptive -0.273406733 B	-37.86	0.0001	0.00722135
	HFETNOX 3wayNonadapt -0.051251890 B	-4.73	0.0001	0.01084580
	HFETNOX Noncatalyst -0.138443655 B	-7.00	0.0001	0.01977350
	HFETNOX Oxycatalyst -0.174915327 B	-13.63	0.0001	0.01283405
	NYCCNOX 3wayAdaptive 0.000000000 B	.	.	.
	NYCCNOX 3wayNonadapt 0.000000000 B	.	.	.
	NYCCNOX Noncatalyst 0.000000000 B	.	.	.
	NYCCNOX Oxycatalyst 0.000000000 B	.	.	.
TEMP*EMSTECH	50 3wayAdaptive -0.006804915 B	-1.11	0.2658	0.00611249

General Linear Models Procedure

Dependent Variable: NOX2

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
TEMP*EMSTECH	50 3wayNonadapt -0.088293418 B	-9.85	0.0001	0.00896164
	50 Noncatalyst -0.024587711 B	-1.38	0.1667	0.01777273
	50 Oxycatalyst -0.015341449 B	-1.40	0.1614	0.01095001
	75 3wayAdaptive -0.021051017 B	-4.01	0.0001	0.00524738
	75 3wayNonadapt -0.055449020 B	-7.08	0.0001	0.00782850
	75 Noncatalyst -0.016008097 B	-1.05	0.2951	0.01528535
	75 Oxycatalyst -0.014755611 B	-1.50	0.1328	0.00981215
	95 3wayAdaptive 0.000000000 B	.	.	.
	95 3wayNonadapt 0.000000000 B	.	.	.
	95 Noncatalyst 0.000000000 B	.	.	.
	95 Oxycatalyst 0.000000000 B	.	.	.
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE -0.005498443	-1.97	0.0486	0.00278588
	3wayAdaptive EtOH -0.001261031	-0.45	0.6494	0.00277306
	3wayAdaptive EtOH/SB 0.004498120	1.66	0.0976	0.00271406
	3wayAdaptive Low+OrigBase 0.000000000	.	.	.
	3wayAdaptive MTBE -0.010499392	-3.90	0.0001	0.00269403
	3wayNonadapt ETBE -0.002614145	-0.63	0.5318	0.00418028
	3wayNonadapt EtOH 0.008953881	2.12	0.0342	0.00422388
	3wayNonadapt EtOH/SB 0.002166470	0.54	0.5926	0.00404840
	3wayNonadapt Low+OrigBase 0.000000000	.	.	.
	3wayNonadapt MTBE 0.000619319	0.15	0.8804	0.00411684
	Noncatalyst ETBE -0.009613724	-1.28	0.1994	0.00748929
	Noncatalyst EtOH -0.010293227	-1.29	0.1969	0.00797373

Total Exhaust NOx Emissions

Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy

General Linear Models Procedure

Dependent Variable: NOX2

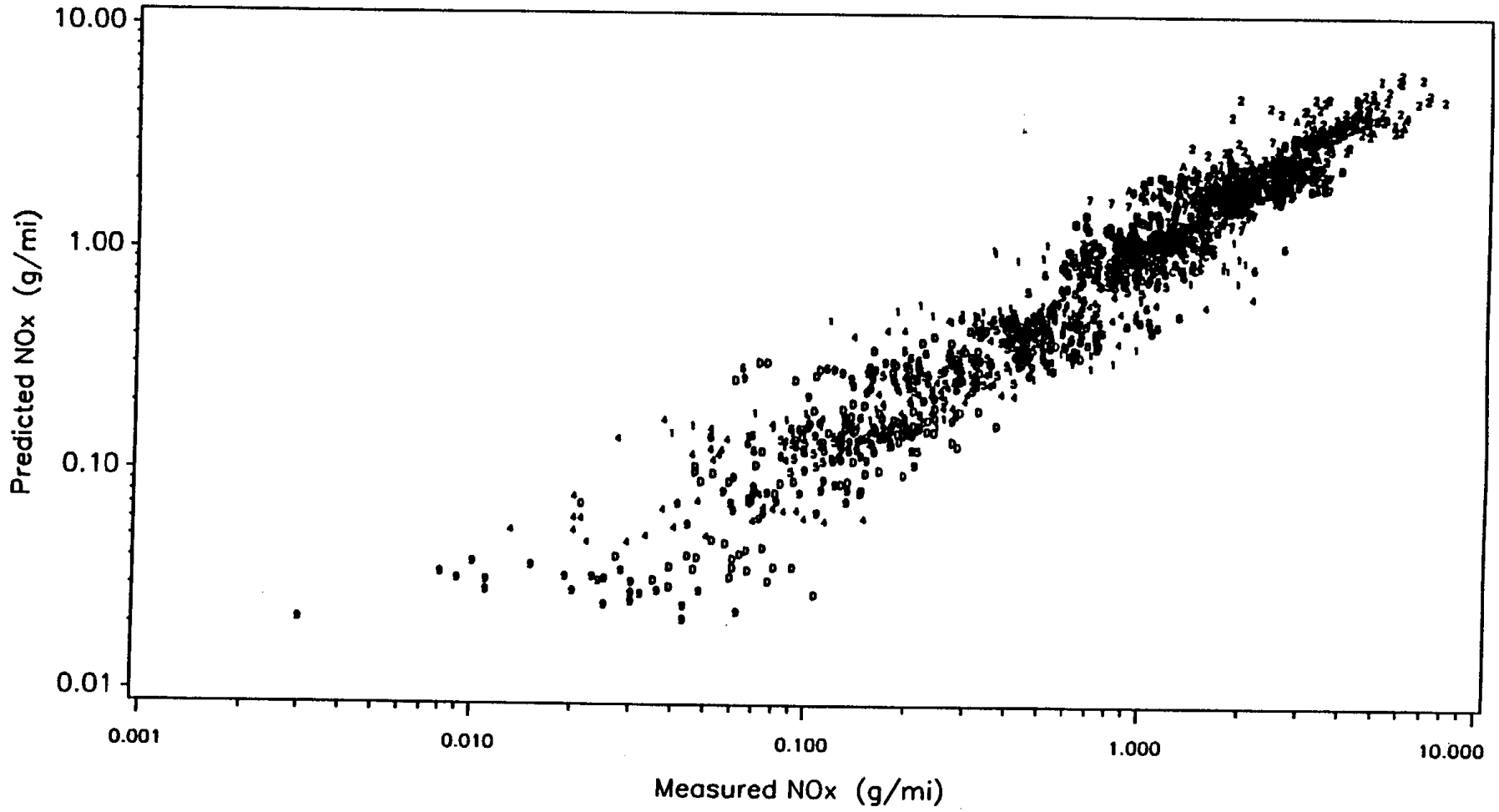
Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst EtOH/SB			
	-0.006944945	-0.93	0.3539	0.00748929
	Noncatalyst Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst MTBE			
	-0.007046428	-0.96	0.3352	0.00730902
	Oxycatalyst ETBE			
	0.012396418	2.46	0.0141	0.00504473
	Oxycatalyst EtOH			
	0.015570573	3.10	0.0020	0.00503051
	Oxycatalyst EtOH/SB			
	0.006329713	1.31	0.1887	0.00481383
	Oxycatalyst Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst MTBE			
	0.005234607	1.08	0.2782	0.00482600

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

K.7.6.

Total Exhaust NOx Emissions

Model: NOx**0.2 = vehid emstech*cycle emstech*temp emstech*coblend*oxy



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Total Exhaust EOP Emissions 1
Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB MTBE New+Low+OrigBase

Number of observations in data set = 981

NOTE: Due to missing values, only 857 observations can be used in this analysis.

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Total Exhaust EOP Emissions 2
Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNEXEOP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	82	2931.7414465	35.7529445	228.12	0.0001
Error	775	121.4641449	0.1567279		
Uncorrected Total	857	3053.2055915			

R-Square	C.V.	Root MSE	LNEXEOP Mean
0.957191	78.87813	0.3958888	0.5018593

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	2901.8083439	69.0906749	440.83	0.0001
OXY*VEHID*COBLEND	28	12.5130799	0.4468957	2.85	0.0001
CYCLE*TEMP	11	16.9659528	1.5423593	9.84	0.0001
SEASON	1	0.4540699	0.4540699	2.90	0.0891

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	644.92028709	17.91445242	114.30	0.0001
OXY*VEHID*COBLEND	28	12.56582099	0.44877932	2.86	0.0001
CYCLE*TEMP	11	14.77804231	1.34345839	8.57	0.0001
SEASON	1	0.45406990	0.45406990	2.90	0.0891

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	-0.140039920 B	-1.11	0.2656	0.12569249
1 FTP1	1.205146783 B	9.59	0.0001	0.12565460
1 FTP2	-3.248588291 B	-25.85	0.0001	0.12567614
1 FTP3	-1.027601150 B	-8.11	0.0001	0.12675988
1 HFET	-2.413014936 B	-19.56	0.0001	0.12336591
1 NYCC	0.304392475 B	2.41	0.0162	0.12627920
2 FTP	1.760369680 B	13.65	0.0001	0.12899446
2 FTP1	2.520399084 B	19.55	0.0001	0.12893899
2 FTP2	0.985632175 B	7.64	0.0001	0.12897182

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Total Exhaust EOP Emissions
Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3	1.698712547 B	13.12	0.0001	0.12944962
	2 HFET	0.645182875 B	5.10	0.0001	0.12638548
	2 NYCC	2.437208508 B	19.71	0.0001	0.12366001
	3 FTP	2.189166133 B	16.82	0.0001	0.13018138
	3 FTP1	2.587832786 B	19.89	0.0001	0.13013200
	3 FTP2	1.740274291 B	13.37	0.0001	0.13016088
	3 FTP3	2.249310950 B	17.21	0.0001	0.13072119
	3 HFET	1.332060549 B	10.99	0.0001	0.12122363
	3 NYCC	3.083535562 B	23.89	0.0001	0.12906367
	4 FTP	-0.035780222 B	-0.28	0.7800	0.12807970
	4 FTP1	1.325760346 B	10.38	0.0001	0.12775508
	4 FTP2	-2.479478223 B	-19.36	0.0001	0.12806530
	4 FTP3	-0.979960419 B	-7.62	0.0001	0.12868802
	4 HFET	-2.451136186 B	-20.17	0.0001	0.12149548
	4 NYCC	-0.712227546 B	-5.69	0.0001	0.12522032
	5 FTP	-0.108801984 B	-0.84	0.4027	0.12994107
	5 FTP1	1.226927430 B	9.45	0.0001	0.12990076
	5 FTP2	-2.588265151 B	-19.92	0.0001	0.12992451
	5 FTP3	-1.391934765 B	-10.20	0.0001	0.13651297
	5 HFET	-2.535192717 B	-20.26	0.0001	0.12512696
	5 NYCC	0.152168848 B	1.18	0.2388	0.12907945
	9 FTP	0.218077582 B	1.74	0.0816	0.12507349
	9 FTP1	1.277428432 B	10.22	0.0001	0.12499542

Total Exhaust EOP Emissions
Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2	-2.045785822 B	-16.36	0.0001	0.12504130
	9 FTP3	0.251715077 B	2.01	0.0453	0.12553667
	9 HFET	-1.398035498 B	-11.99	0.0001	0.11558840
	9 NYCC	1.341951915 B	10.86	0.0001	0.12354277
	12 FTP	1.995317146 B	16.08	0.0001	0.12406660
	12 FTP1	2.368516045 B	19.36	0.0001	0.12234482
	12 FTP2	1.726660706 B	14.11	0.0001	0.12239863
	12 FTP3	1.963513119 B	15.97	0.0001	0.12292643
	12 HFET	0.156436867 B	1.40	0.1605	0.11136929
	12 NYCC	3.576732375 B	30.17	0.0001	0.11856434
OXY*VEHID*COBLEND	1 ETBE	-0.098770771	-1.92	0.0555	0.05151074
	1 EtOH	0.026507179	0.59	0.5584	0.04527845
	1 EtOH/SB	-0.061220320	-1.19	0.2356	0.05158072
	1 MTBE	-0.074141539	-1.70	0.0896	0.04362509
	1 New+Low+OrigBase	0.000000000	.	.	.
	2 ETBE	-0.123350934	-2.61	0.0092	0.04725311
	2 EtOH	-0.057673130	-1.28	0.2026	0.04522597
	2 EtOH/SB	-0.068298051	-1.50	0.1338	0.04550218
	2 MTBE	-0.122767868	-2.70	0.0071	0.04550218
	2 New+Low+OrigBase	0.000000000	.	.	.
	3 ETBE	-0.043357532	-0.95	0.3406	0.04546683
	3 EtOH	-0.094111098	-1.99	0.0466	0.04722439
	3 EtOH/SB	-0.055871631	-1.23	0.2195	0.04546683

General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND	3 MTBE	-0.021595578	-0.49	0.6238	0.04400839
	3 New+Low+OrigBase	0.000000000	.	.	.
	4 ETBE	-0.157930605	-3.33	0.0009	0.04740389
	4 EtOH	0.067800713	1.50	0.1337	0.04516456
	4 EtOH/SB	-0.038134315	-0.82	0.4111	0.04636660
	4 MTBE	0.004585531	0.11	0.9152	0.04305406
	4 New+Low+OrigBase	0.000000000	.	.	.
	5 ETBE	-0.122142138	-2.64	0.0083	0.04617963
	5 EtOH	-0.050454602	-1.01	0.3146	0.05014333
	5 EtOH/SB	-0.149736324	-3.24	0.0012	0.04617963
	5 MTBE	-0.081557559	-1.76	0.0796	0.04646322
	5 New+Low+OrigBase	0.000000000	.	.	.
	9 ETBE	-0.072078489	-1.64	0.1012	0.04392148
	9 EtOH	0.039203335	0.89	0.3724	0.04392148
	9 EtOH/SB	0.058624683	1.43	0.1523	0.04091697
	9 MTBE	-0.060981536	-1.23	0.2179	0.04944982
	9 New+Low+OrigBase	0.000000000	.	.	.
	12 ETBE	0.049955193	1.10	0.2709	0.04534114
	12 EtOH	0.055184615	1.28	0.2027	0.04327979
	12 EtOH/SB	0.115183873	2.89	0.0040	0.03988085
	12 MTBE	0.095110906	2.42	0.0156	0.03926010
	12 New+Low+OrigBase	0.000000000	.	.	.
CYCLE*TEMP	FTP 50	0.215452428 B	2.16	0.0309	0.09966954

General Linear Models Procedure

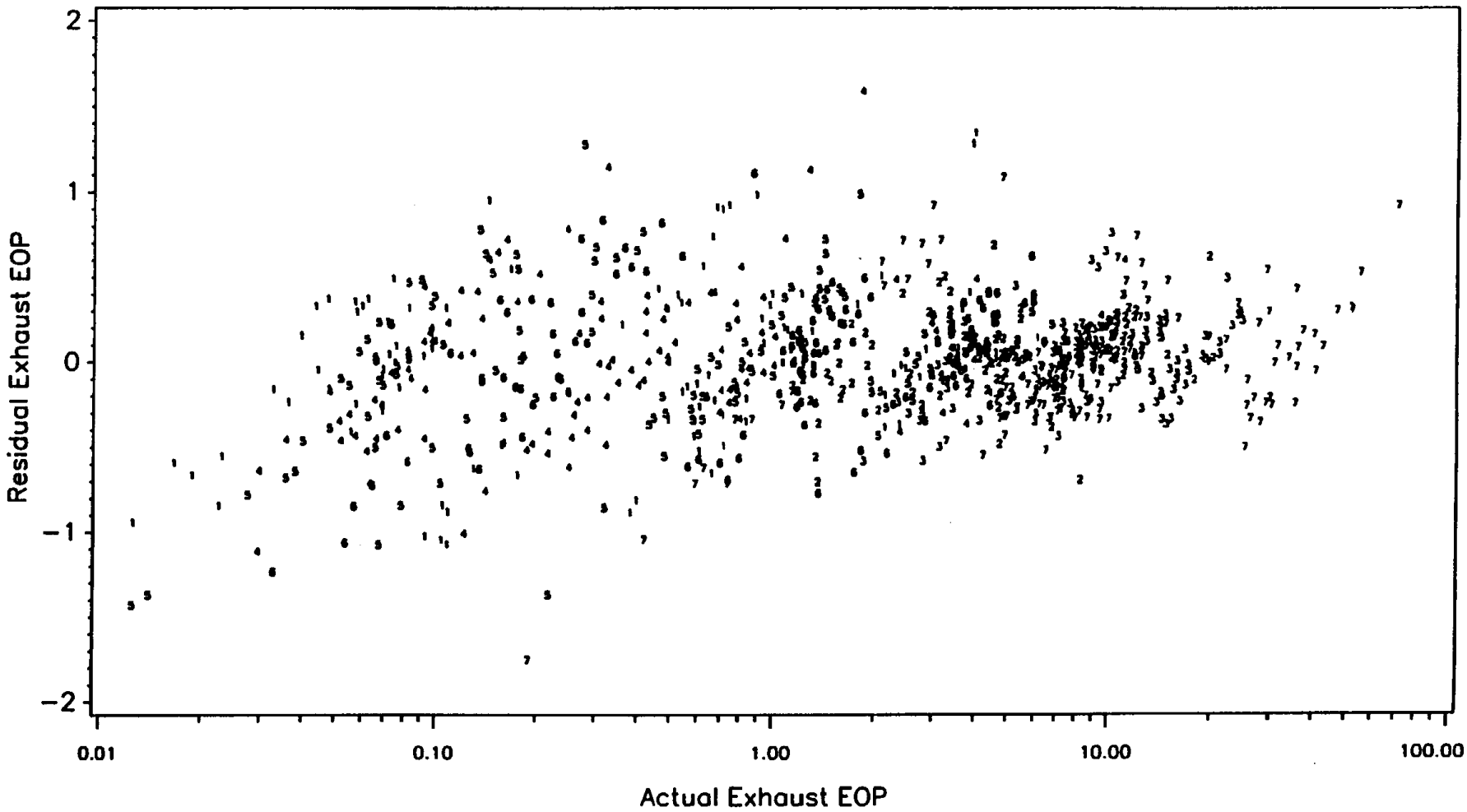
Dependent Variable: LNEXEOP

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	FTP 75	-0.028538743 B	-0.34	0.7372	0.08502705
	FTP 95	0.000000000 B	.	.	.
	FTP1 50	0.474884304 B	4.81	0.0001	0.09880025
	FTP1 75	-0.033856115 B	-0.40	0.6906	0.08502460
	FTP1 95	0.000000000 B	.	.	.
	FTP2 50	0.025165732 B	0.25	0.8000	0.09930856
	FTP2 75	0.364546384 B	4.29	0.0001	0.08502699
	FTP2 95	0.000000000 B	.	.	.
	FTP3 50	-0.015721336 B	-0.16	0.8752	0.10005276
	FTP3 75	-0.122280801 B	-1.42	0.1575	0.08641511
	FTP3 95	0.000000000 B	.	.	.
	HFET 50	0.023707153 B	0.29	0.7707	0.08130503
	HFET 75	0.000000000 B	.	.	.
	NYCC 50	-0.215042572 B	-2.19	0.0289	0.09826838
	NYCC 75	-0.064899582 B	-0.79	0.4278	0.08179445
	NYCC 95	0.000000000 B	.	.	.
SEASON	Summer	-0.066855095 B	-1.70	0.0891	0.03927773
	Winter	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust EOP Emissions

Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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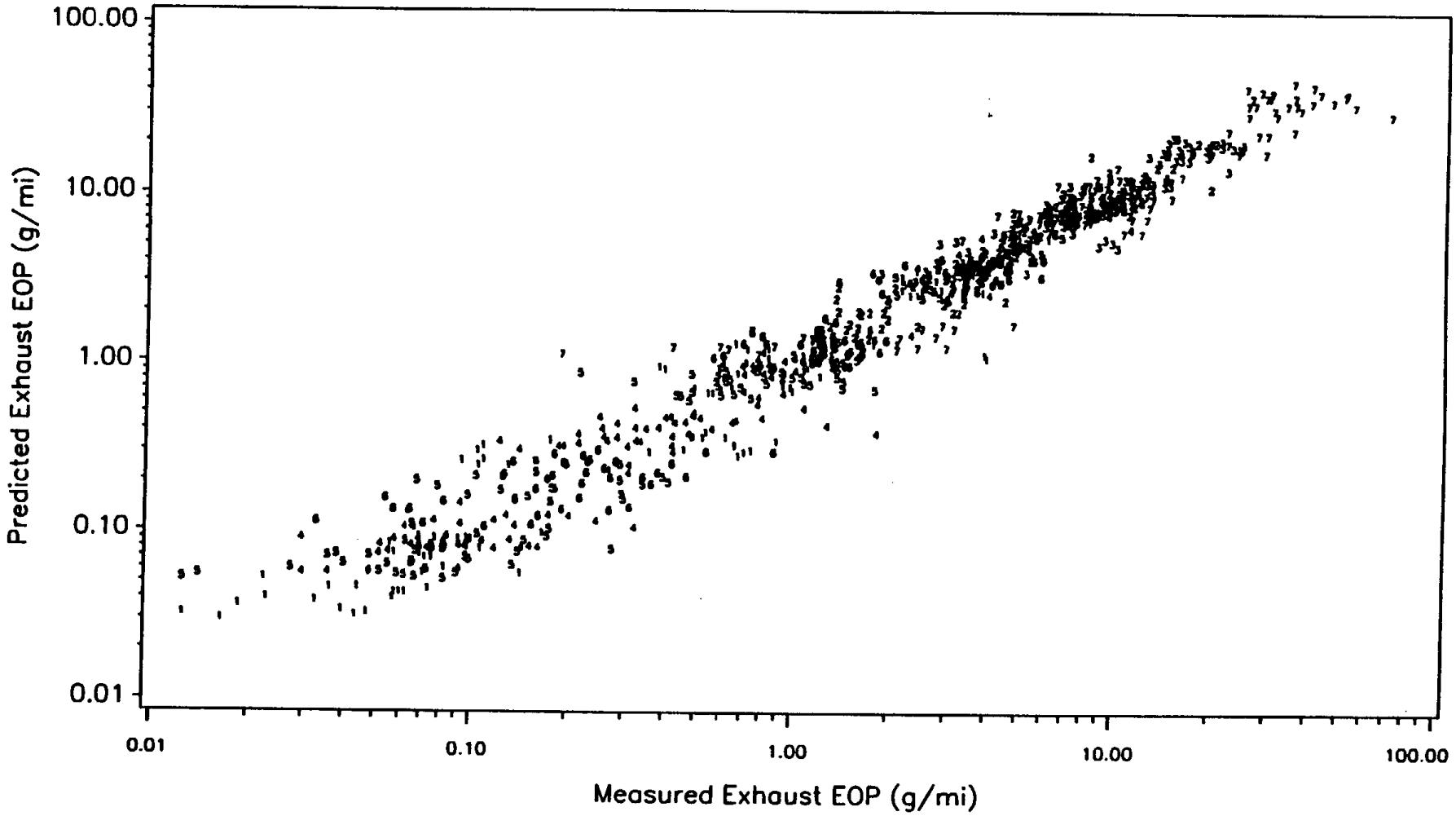
Total Exhaust EOP Emissions

Model: lnexeop = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Total Exhaust EOP Emissions 1

Model: lnexeop = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB MTBE New+Low+OrigBase

Number of observations in data set = 981

NOTE: Due to missing values, only 857 observations can be used in this analysis.

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Total Exhaust EOP Emissions 2

Model: lnexeop = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNEXEOP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	70	2928.4580633	41.8351152	263.93	0.0001
Error	787	124.7475282	0.1585102		
Uncorrected Total	857	3053.2055915			

R-Square	C.V.	Root MSE	LNEXEOP Mean
0.956033	79.32535	0.3981334	0.5018993

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	2901.8083439	69.0906749	435.88	0.0001
OXY*EMSTECH*COBLEND	16	9.0993325	0.5687083	3.59	0.0001
CYCLE*TEMP	11	16.9136376	1.5376034	9.70	0.0001
SEASON	1	0.6367492	0.6367492	4.02	0.0454

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	707.09816794	19.64161578	123.91	0.0001
OXY*EMSTECH*COBLEND	16	9.28243769	0.58015236	3.66	0.0001
CYCLE*TEMP	11	14.69973504	1.33633955	8.43	0.0001
SEASON	1	0.63674917	0.63674917	4.02	0.0454

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	-0.145904710 B	-1.24	0.2153	0.11764651
1 FTP1	1.198637160 B	10.19	0.0001	0.11758425
1 FTP2	-3.254473846 B	-27.67	0.0001	0.11762818
1 FTP3	-1.037304619 B	-8.71	0.0001	0.11909640
1 HFET	-2.422258409 B	-21.19	0.0001	0.11432442
1 NYCC	0.294419919 B	2.52	0.0119	0.11683749
2 FTP	1.771916205 B	13.67	0.0001	0.12960752
2 FTP1	2.531154353 B	19.54	0.0001	0.12955593
2 FTP2	0.997153903 B	7.69	0.0001	0.12958512

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General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3			
	1.707353160 B	13.13	0.0001	0.13005311
	2 HFET			
	0.655716263 B	5.16	0.0001	0.12699375
	2 NYCC			
	2.449552112 B	19.72	0.0001	0.12422603
	3 FTP			
	2.200797858 B	16.83	0.0001	0.13079978
	3 FTP1			
	2.598722017 B	19.87	0.0001	0.13075381
	3 FTP2			
	1.751882324 B	13.40	0.0001	0.13077950
	3 FTP3			
	2.257964269 B	17.19	0.0001	0.13132791
	3 HFET			
	1.342891366 B	11.03	0.0001	0.12179373
	3 NYCC			
	3.095801505 B	23.88	0.0001	0.12966671
	4 FTP			
	-0.001224160 B	-0.01	0.9916	0.11642253
	4 FTP1			
	1.364722252 B	11.81	0.0001	0.11555891
	4 FTP2			
	-2.444941110 B	-21.00	0.0001	0.11640715
	4 FTP3			
	-0.942087040 B	-8.04	0.0001	0.11724406
	4 HFET			
	-2.406703055 B	-22.12	0.0001	0.10882193
	4 NYCC			
	-0.667747853 B	-5.89	0.0001	0.11340806
	5 FTP			
	-0.198005463 B	-1.67	0.0946	0.11829887
	5 FTP1			
	1.137079118 B	9.62	0.0001	0.11823666
	5 FTP2			
	-2.677489393 B	-22.64	0.0001	0.11828066
	5 FTP3			
	-1.491276920 B	-12.05	0.0001	0.12376454
	5 HFET			
	-2.633578107 B	-23.65	0.0001	0.11134277
	5 NYCC			
	0.051423804 B	0.45	0.6547	0.11494869
	9 FTP			
	0.294520533 B	2.52	0.0118	0.11668365
	9 FTP1			
	1.352983897 B	11.61	0.0001	0.11658571

General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2			
	-1.969370365 B	-16.88	0.0001	0.11665023
	9 FTP3			
	0.325087391 B	2.77	0.0057	0.11736825
	9 HFET			
	-1.318332495 B	-12.43	0.0001	0.10606800
	9 NYCC			
	1.425162895 B	12.42	0.0001	0.11475212
	12 FTP			
	2.006309464 B	16.09	0.0001	0.12465737
	12 FTP1			
	2.378664922 B	19.35	0.0001	0.12292674
	12 FTP2			
	1.737784745 B	14.13	0.0001	0.12297619
	12 FTP3			
	1.971358545 B	15.96	0.0001	0.12349283
	12 HFET			
	0.167393812 B	1.50	0.1350	0.11186552
	12 NYCC			
	3.588727582 B	30.13	0.0001	0.11910355
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE			
	-0.110614697	-4.67	0.0001	0.02367615
	3wayAdaptive EtOH			
	0.024870302	1.07	0.2835	0.02317123
	3wayAdaptive EtOH/SB			
	-0.040021433	-1.74	0.0822	0.02299795
	3wayAdaptive MTBE			
	-0.045959557	-2.02	0.0440	0.02278435
	3wayAdaptive New+Low+OrigBase			
	0.000000000	.	.	.
	3wayNonadapt ETBE			
	-0.124482356	-2.62	0.0090	0.04751757
	3wayNonadapt EtOH			
	-0.058543579	-1.29	0.1984	0.04548050
	3wayNonadapt EtOH/SB			
	-0.069181981	-1.51	0.1310	0.04575816
	3wayNonadapt MTBE			
	-0.123651798	-2.70	0.0070	0.04575816
	3wayNonadapt New+Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst ETBE			
	-0.044275397	-0.97	0.3332	0.04572243
	Noncatalyst EtOH			
	-0.095236618	-2.01	0.0453	0.04748888
	Noncatalyst EtOH/SB			
	-0.056789495	-1.24	0.2146	0.04572243

General Linear Models Procedure

Dependent Variable: LNEXEOP

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst MTBE			
	-0.022325925	-0.50	0.6141	0.04425649
	Noncatalyst New+Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst ETBE			
	0.049672574	1.09	0.2763	0.04559786
	Oxycatalyst EtOH			
	0.054470014	1.25	0.2111	0.04352373
	Oxycatalyst EtOH/SB			
	0.115107241	2.87	0.0042	0.04010646
	Oxycatalyst MTBE			
	0.094868624	2.40	0.0165	0.03948210
	Oxycatalyst New+Low+OrigBase			
	0.000000000	.	.	.
CYCLE*TEMP	FTP 50			
	0.200557698 B	2.01	0.0452	0.09996924
	FTP 75			
	-0.029093156 B	-0.34	0.7337	0.08549179
	FTP 95			
	0.000000000 B	.	.	.
	FTP1 50			
	0.462801664 B	4.67	0.0001	0.09913580
	FTP1 75			
	-0.034526907 B	-0.40	0.6864	0.08549033
	FTP1 95			
	0.000000000 B	.	.	.
	FTP2 50			
	0.010352461 B	0.10	0.9173	0.09960881
	FTP2 75			
	0.363992770 B	4.26	0.0001	0.08549172
	FTP2 95			
	0.000000000 B	.	.	.
	FTP3 50			
	-0.024250914 B	-0.24	0.8091	0.10035547
	FTP3 75			
	-0.120621067 B	-1.39	0.1653	0.08685868
	FTP3 95			
	0.000000000 B	.	.	.
	HFET 50			
	0.009305120 B	0.11	0.9090	0.08138542
	HFET 75			
	0.000000000 B	.	.	.
	NYCC 50			
	-0.232458416 B	-2.36	0.0185	0.09850038
	NYCC 75			
	-0.065289622 B	-0.79	0.4274	0.08222776

General Linear Models Procedure

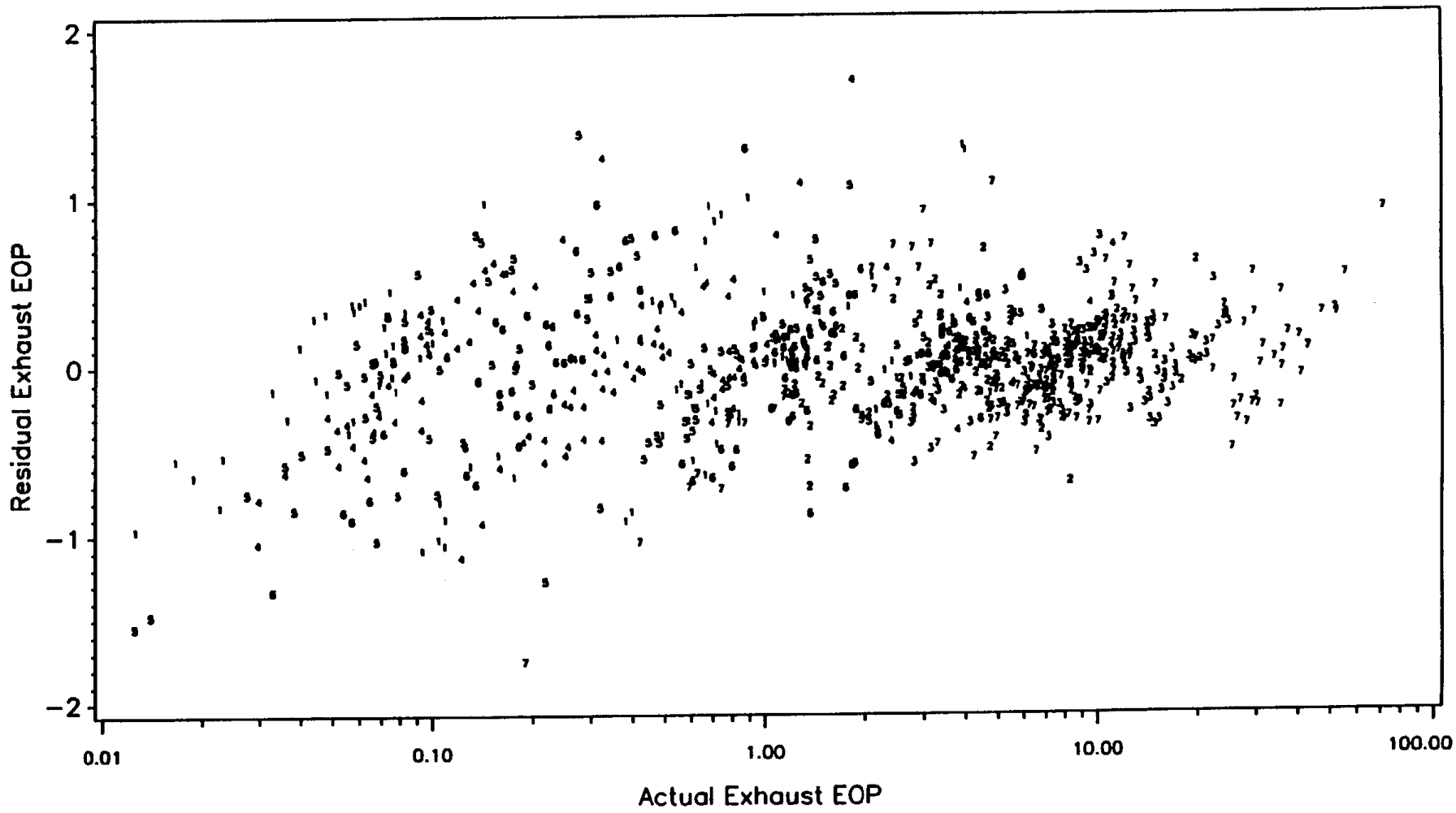
Dependent Variable: LNEXEOP

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	NYCC 95			
	0.000000000 B	.	.	.
SEASON	Summer			
	-0.078343959 B	-2.00	0.0454	0.03908858
	Winter			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust EOP Emissions

Model: lnexeop = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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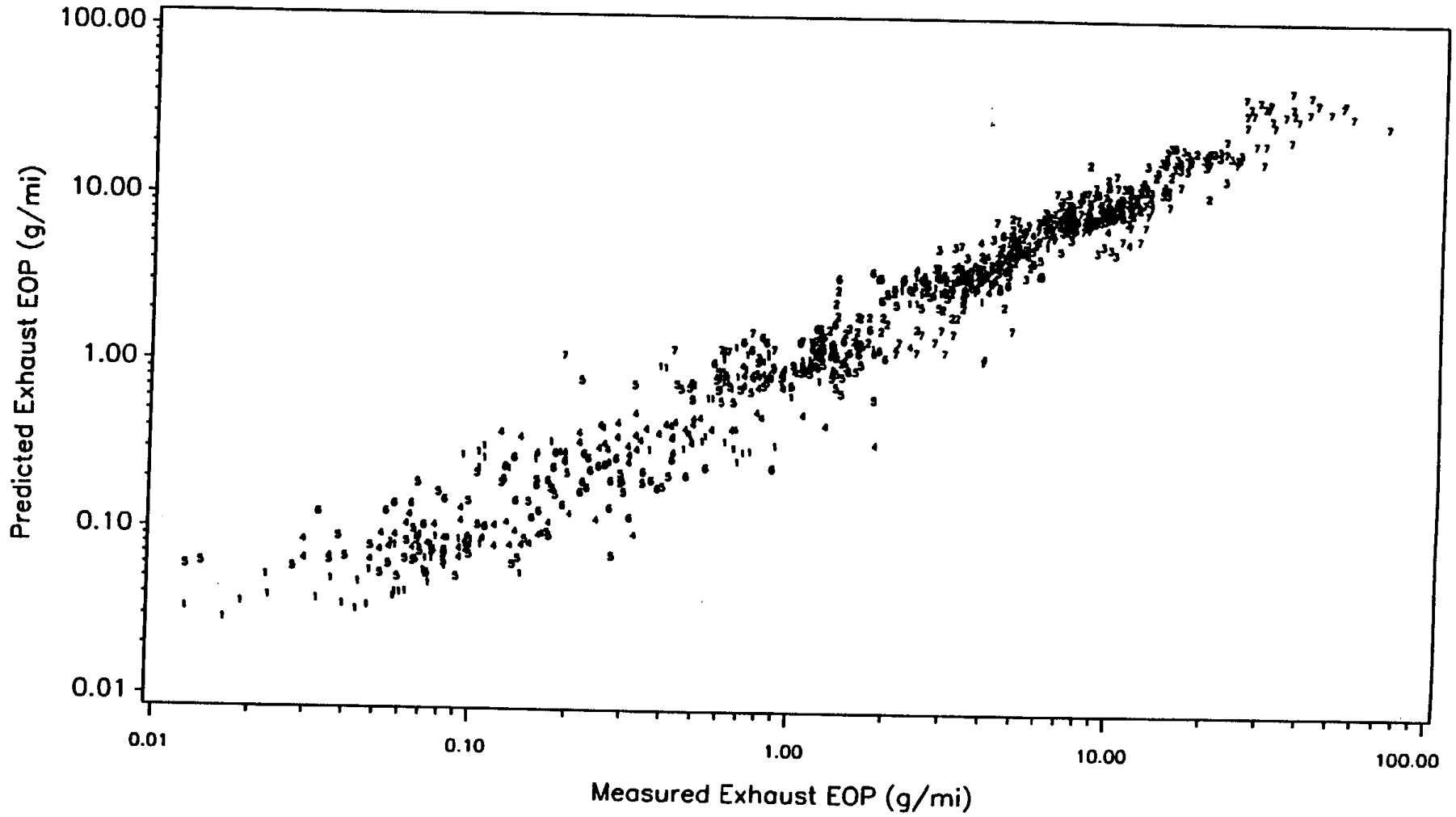
Total Exhaust EOP Emissions

Model: lnexeop = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Total Exhaust Benzene Emissions 1
Model: lnbnzn = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 936

NOTE: Due to missing values, only 808 observations can be used in this analysis.

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Total Exhaust Benzene Emissions 2
Model: lnbnzn = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNBNZN

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	82	11711.715323	142.825797	831.05	0 0001
Error	726	124.771087	0.171861		
Uncorrected Total	808	11836.486410			

R-Square	C.V.	Root MSE	LNBNZN Mean
0.920019	-11.62444	0.4145612	-3.5662892

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	11674.433968	277.962714	1617.37	0 0001
OXY*VEHID*COBLEND	28	20.185023	0.720894	4.19	0.0001
CYCLE*TEMP	11	16.306831	1.482439	8.63	0.0001
SEASON	1	0.789501	0.789501	4.59	0.0324

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	326.02211015	9.05616973	52.69	0 0001
OXY*VEHID*COBLEND	28	19.71213665	0.70400488	4.10	0.0001
CYCLE*TEMP	11	17.04980729	1.54998248	9.02	0 0001
SEASON	1	0.78950068	0.78950068	4.59	0 0324

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	-4.696126438 B	-34.25	0.0001	0.13709693
1 FTP1	-3.519030128 B	-25.67	0.0001	0.13706931
1 FTP2	-7.502139357 B	-45.09	0.0001	0.16638047
1 FTP3	-4.821708982 B	-34.89	0.0001	0.13820159
1 HFET	-5.586423203 B	-40.61	0.0001	0.13755557
1 NYCC	-3.873051841 B	-27.99	0.0001	0.13836617
2 FTP	-2.676260220 B	-18.99	0.0001	0.14095785
2 FTP1	-2.230878789 B	-15.83	0.0001	0.14091150
2 FTP2	-2.832640986 B	-19.84	0.0001	0.14276827

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General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3	-2.633753864 B	-18.63	0.0001	0.14134634
	2 HFET	-3.364998801 B	-23.96	0.0001	0.14046652
	2 NYCC	-2.039821475 B	-15.09	0.0001	0.13520804
	3 FTP	-2.458558125 B	-17.28	0.0001	0.14227072
	3 FTP1	-2.091701992 B	-14.71	0.0001	0.14223068
	3 FTP2	-2.572732942 B	-17.82	0.0001	0.14440737
	3 FTP3	-2.458960030 B	-17.23	0.0001	0.14273466
	3 HFET	-3.188993323 B	-23.69	0.0001	0.13460248
	3 NYCC	-1.608204112 B	-11.39	0.0001	0.14116449
	4 FTP	-4.232227509 B	-30.24	0.0001	0.13996780
	4 FTP1	-3.196774562 B	-22.90	0.0001	0.13960986
	4 FTP2	-5.481560639 B	-38.61	0.0001	0.14195705
	4 FTP3	-4.490363145 B	-31.96	0.0001	0.14049640
	4 HFET	-5.799868176 B	-42.94	0.0001	0.13506190
	4 NYCC	-3.880225908 B	-28.33	0.0001	0.13697605
	5 FTP	-4.717312524 B	-33.28	0.0001	0.14176530
	5 FTP1	-3.600741164 B	-25.40	0.0001	0.14173522
	5 FTP2	-6.069755610 B	-41.36	0.0001	0.14674231
	5 FTP3	-5.221368126 B	-35.17	0.0001	0.14847050
	5 HFET	-6.164353754 B	-44.44	0.0001	0.13870032
	5 NYCC	-3.517755671 B	-25.43	0.0001	0.13833352
	9 FTP	-3.811793530 B	-28.17	0.0001	0.13529225
	9 FTP1	-3.244798851 B	-24.00	0.0001	0.13521100

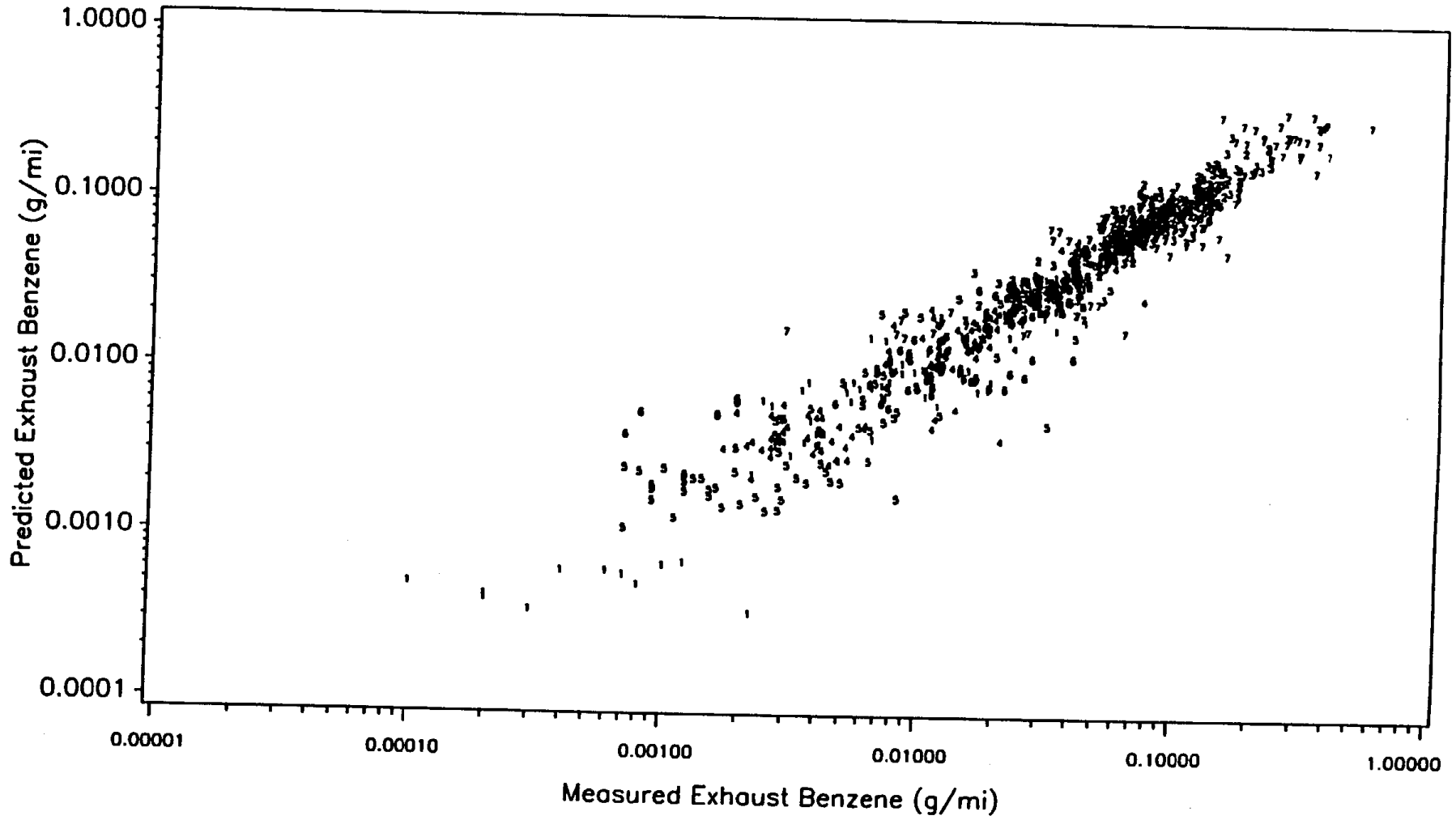
General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2	-4.867977379 B	-35.46	0.0001	0.13727358
	9 FTP3	-3.410530674 B	-25.14	0.0001	0.13568762
	9 HFET	-4.335221647 B	-33.89	0.0001	0.12791050
	9 NYCC	-2.276725272 B	-17.04	0.0001	0.13364617
	12 FTP	-2.873811691 B	-21.42	0.0001	0.13414639
	12 FTP1	-2.589832975 B	-19.61	0.0001	0.13207614
	12 FTP2	-2.750091796 B	-20.47	0.0001	0.13434288
	12 FTP3	-2.874446152 B	-21.68	0.0001	0.13260233
	12 HFET	-4.206695830 B	-34.71	0.0001	0.12119402
	12 NYCC	-1.480315704 B	-11.60	0.0001	0.12763795
OXY*VEHID*COBLEND	1 ETBE	-0.157578691	-2.62	0.0091	0.06025786
	1 EtOH	-0.033947731	-0.66	0.5081	0.05127325
	1 EtOH/SB	-0.071975677	-1.24	0.2154	0.05804916
	1 Low+OrigBase	0.000000000	.	.	.
	1 MTBE	-0.108566519	-2.25	0.0245	0.04815263
	2 ETBE	-0.146988558	-2.84	0.0046	0.05172989
	2 EtOH	-0.030212539	-0.61	0.5447	0.04985030
	2 EtOH/SB	-0.083654300	-1.67	0.0955	0.05011005
	2 Low+OrigBase	0.000000000	.	.	.
	2 MTBE	-0.131926960	-2.63	0.0086	0.05011005
	3 ETBE	-0.166342376	-3.32	0.0009	0.05005708
	3 EtOH	-0.166103075	-3.21	0.0014	0.05171040
	3 EtOH/SB	-0.119980580	-2.40	0.0168	0.05005708

Total Exhaust Benzene Emissions

Model: lnbnzn = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 936

NOTE: Due to missing values, only 808 observations can be used in this analysis.

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General Linear Models Procedure

Dependent Variable: LNBNZN

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	70	11709.530457	167.279007	972.40	0.0001
Error	738	126.955953	0.172027		
Uncorrected Total	808	11836.486410			

R-Square	C.V.	Root MSE	LNBNZN Mean
0.918618	-11.63006	0.4147614	-3.5662892

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	11674.433968	277.962714	1615.81	0.0001
OXY*EMSTECH*COBLEND	16	18.084315	1.130270	6.57	0.0001
CYCLE*TEMP	11	16.349966	1.486361	8.64	0.0001
SEASON	1	0.662207	0.662207	3.85	0.0501

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	424.95879025	11.80441084	68.62	0.0001
OXY*EMSTECH*COBLEND	16	17.52727055	1.09545441	6.37	0.0001
CYCLE*TEMP	11	16.98670301	1.54424573	8.98	0.0001
SEASON	1	0.66220707	0.66220707	3.85	0.0501

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE				
1 FTP	-4.740160469 B	-37.90	0.0001	0.12507611
1 FTP1	-3.563343820 B	-28.50	0.0001	0.12502049
1 FTP2	-7.559790054 B	-47.97	0.0001	0.15758449
1 FTP3	-4.865277404 B	-38.43	0.0001	0.12661638
1 HFET	-5.636606663 B	-45.54	0.0001	0.12377858
1 NYCC	-3.921920162 B	-31.49	0.0001	0.12454066
2 FTP	-2.668366754 B	-18.94	0.0001	0.14092226
2 FTP1	-2.223344750 B	-15.78	0.0001	0.14088007
2 FTP2	-2.825772314 B	-19.80	0.0001	0.14270625

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Total Exhaust Benzene Emissions
Model: lnbnzn = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3 -2.628482479 B	-18.60	0.0001	0.14130108
	2 HFET -3.358713579 B	-23.92	0.0001	0.14043685
	2 NYCC -2.029977428 B	-15.02	0.0001	0.13514930
	3 FTP -2.450527944 B	-17.23	0.0001	0.14223395
	3 FTP1 -2.084007918 B	-14.66	0.0001	0.14219752
	3 FTP2 -2.565771532 B	-17.78	0.0001	0.14434098
	3 FTP3 -2.453725365 B	-17.20	0.0001	0.14268595
	3 HFET -3.182344645 B	-23.65	0.0001	0.13456203
	3 NYCC -1.598156239 B	-11.33	0.0001	0.14111355
	4 FTP -4.128506656 B	-33.34	0.0001	0.12381608
	4 FTP1 -3.091038056 B	-25.17	0.0001	0.12280942
	4 FTP2 -5.378799178 B	-42.60	0.0001	0.12626476
	4 FTP3 -4.385792431 B	-35.20	0.0001	0.12459168
	4 HFET -5.689770712 B	-48.48	0.0001	0.11736749
	4 NYCC -3.767263981 B	-31.20	0.0001	0.12076276
	5 FTP -4.781166037 B	-37.97	0.0001	0.12592674
	5 FTP1 -3.664874337 B	-29.12	0.0001	0.12587191
	5 FTP2 -6.131801088 B	-46.51	0.0001	0.13184550
	5 FTP3 -5.291916611 B	-40.45	0.0001	0.13083050
	5 HFET -6.239849241 B	-52.04	0.0001	0.11990095
	5 NYCC -3.589241763 B	-29.74	0.0001	0.12069606
	9 FTP -3.784518526 B	-30.53	0.0001	0.12395593
	9 FTP1 -3.217938407 B	-25.98	0.0001	0.12385459

Total Exhaust Benzene Emissions
Model: lnbnzn = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2 -4.841784946 B	-38.37	0.0001	0.12617334
	9 FTP3 -3.385970758 B	-27.17	0.0001	0.12463044
	9 HFET -4.309607722 B	-37.86	0.0001	0.11384066
	9 NYCC -2.244179728 B	-18.40	0.0001	0.12194942
	12 FTP -2.866285698 B	-21.37	0.0001	0.13411014
	12 FTP1 -2.582720442 B	-19.56	0.0001	0.13203932
	12 FTP2 -2.743666322 B	-20.43	0.0001	0.13426639
	12 FTP3 -2.869731430 B	-21.65	0.0001	0.13254906
	12 HFET -4.200108715 B	-34.68	0.0001	0.12111800
	12 NYCC -1.470347312 B	-11.53	0.0001	0.12756941
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE -0.165206410	-6.35	0.0001	0.02601124
	3wayAdaptive EtOH 0.019591461	0.77	0.4406	0.02538985
	3wayAdaptive EtOH/SB -0.054414289	-2.16	0.0315	0.02524891
	3wayAdaptive Low+OrigBase 0.000000000	.	.	.
	3wayAdaptive MTBE -0.066354124	-2.67	0.0077	0.02481824
	3wayNonadapt ETBE -0.147769450	-2.86	0.0044	0.05175205
	3wayNonadapt EtOH -0.030727635	-0.62	0.5380	0.04987312
	3wayNonadapt EtOH/SB -0.084161172	-1.68	0.0936	0.05013288
	3wayNonadapt Low+OrigBase 0.000000000	.	.	.
	3wayNonadapt MTBE -0.132433833	-2.64	0.0084	0.05013288
	Noncatalyst ETBE -0.166909497	-3.33	0.0009	0.05007964
	Noncatalyst EtOH -0.166832906	-3.22	0.0013	0.05173272
	Noncatalyst EtOH/SB -0.120547702	-2.41	0.0163	0.05007964

General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst MTBE			
	-0.144658340	-2.97	0.0031	0.04873485
	Oxycatalyst ETBE			
	-0.011635132	-0.24	0.8123	0.04897690
	Oxycatalyst EtOH			
	0.072682336	1.55	0.1209	0.04680551
	Oxycatalyst EtOH/SB			
	0.146720711	3.38	0.0008	0.04340246
	Oxycatalyst Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst MTBE			
	0.092226501	2.16	0.0313	0.04274764
CYCLE*TEMP	FTP 50			
	0.349886214 B	3.24	0.0013	0.10804171
	FTP 75			
	0.114705149 B	1.29	0.1983	0.08908746
	FTP 95			
	0.000000000 B	.	.	.
	FTP1 50			
	0.733198171 B	6.86	0.0001	0.10684018
	FTP1 75			
	0.151307905 B	1.70	0.0898	0.08908575
	FTP1 95			
	0.000000000 B	.	.	.
	FTP2 50			
	-0.257471576 B	-2.30	0.0216	0.11186861
	FTP2 75			
	0.132963112 B	1.40	0.1619	0.09496458
	FTP2 95			
	0.000000000 B	.	.	.
	FTP3 50			
	0.014630812 B	0.14	0.8925	0.10822309
	FTP3 75			
	-0.028376105 B	-0.31	0.7534	0.09027366
	FTP3 95			
	0.000000000 B	.	.	.
	HFET 50			
	0.099595213 B	1.10	0.2698	0.09018133
	HFET 75			
	0.000000000 B	.	.	.
	NYCC 50			
	-0.134408632 B	-1.27	0.2060	0.10618956
	NYCC 75			
	0.026562412 B	0.31	0.7567	0.08569614

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cycle emstech coblend oxy cycle temp season

General Linear Models Procedure

Dependent Variable: LNBNZN

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	NYCC 95			
	0.000000000 B	.	.	.
SEASON	Summer			
	0.080366993 B	1.96	0.0501	0.04096181
	Winter			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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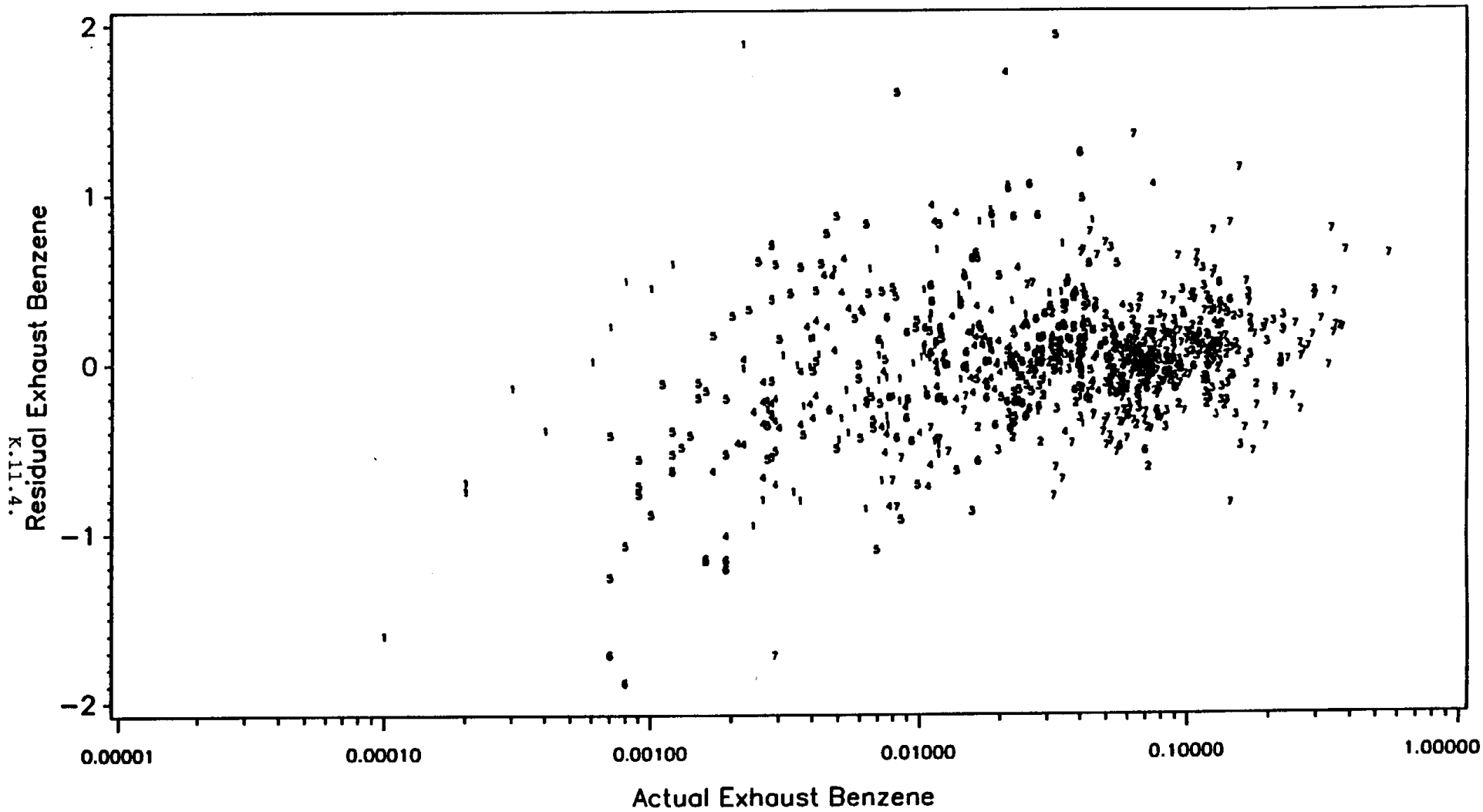
Total Exhaust Benzene Emissions

Model: lnbnzn = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB MTBE New+Low+OrigBase

Number of observations in data set = 984

NOTE: Due to missing values, only 804 observations can be used in this analysis.

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General Linear Models Procedure

Dependent Variable: LNFORM

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	82	22933.806150	279.680563	1239.40	0.0001
Error	722	162.924804	0.225658		
Uncorrected Total	804	23096.730954			

R-Square	C.V.	Root MSE	LNFORM Mean
0.957213	-9.698372	0.4750343	-4.8980832

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	22885.590216	544.895005	2414.70	0.0001
OXY*VEHID*COBLEND	28	23.630220	0.843936	3.74	0.0001
CYCLE*TEMP	11	23.410197	2.128200	9.43	0.0001
SEASON	1	1.175516	1.175516	5.21	0.0228

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	1042.8399898	28.9677775	128.37	0.0001
OXY*VEHID*COBLEND	28	24.3140743	0.8683598	3.85	0.0001
CYCLE*TEMP	11	23.9671619	2.1788329	9.66	0.0001
SEASON	1	1.1755162	1.1755162	5.21	0.0228

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	1 FTP	-5.204029570 B	-34.10	0.0001	0.15263077
	1 FTP1	-3.942534648 B	-25.83	0.0001	0.15263077
	1 FTP2	-6.185749836 B	-40.43	0.0001	0.15301428
	1 FTP3	-7.215383804 B	-46.50	0.0001	0.15516771
	1 HFET	-8.923189621 B	-46.09	0.0001	0.19360478
	1 NYCC	-6.298479078 B	-39.97	0.0001	0.15758866
	2 FTP	-3.584948178 B	-23.06	0.0001	0.15547590
	2 FTP1	-2.862459983 B	-18.41	0.0001	0.15547590
	2 FTP2	-4.193876673 B	-27.01	0.0001	0.15528733

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Model: lnform = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNFORM

Parameter		Estimate		T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3	-3.903869534	B	-24.98	0.0001	0.15629617
	2 HFET	-5.124922223	B	-33.54	0.0001	0.15281646
	2 NYCC	-3.243565974	B	-21.73	0.0001	0.14927603
	3 FTP	-2.184503054	B	-13.91	0.0001	0.15707420
	3 FTP1	-2.066868749	B	-13.16	0.0001	0.15707420
	3 FTP2	-2.463201925	B	-15.64	0.0001	0.15752465
	3 FTP3	-2.390973247	B	-15.14	0.0001	0.15795310
	3 HFET	-3.341358393	B	-22.65	0.0001	0.14755208
	3 NYCC	-1.416381112	B	-9.08	0.0001	0.15603275
	4 FTP	-5.853129368	B	-37.36	0.0001	0.15666512
	4 FTP1	-4.444825609	B	-28.37	0.0001	0.15666512
	4 FTP2	-7.569301253	B	-47.24	0.0001	0.16022679
	4 FTP3	-7.305828582	B	-46.08	0.0001	0.15855618
	4 HFET	-8.978429424	B	-46.85	0.0001	0.19163458
	4 NYCC	-6.542626822	B	-42.44	0.0001	0.15415628
	5 FTP	-6.129966144	B	-38.49	0.0001	0.15925844
	5 FTP1	-4.759907963	B	-29.89	0.0001	0.15925844
	5 FTP2	-7.532868047	B	-46.89	0.0001	0.16064342
	5 FTP3	-7.743221425	B	-46.47	0.0001	0.16664409
	5 HFET	-8.927616491	B	-47.24	0.0001	0.18896642
	5 NYCC	-6.933949580	B	-42.15	0.0001	0.16448726
	9 FTP	-5.509581689	B	-35.49	0.0001	0.15522354
	9 FTP1	-4.055676572	B	-26.13	0.0001	0.15522354

Total Exhaust Formaldehyde Emissions

Model: lnform = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNFORM

Parameter		Estimate		T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2	-7.410456484	B	-47.02	0.0001	0.15759113
	9 FTP3	-7.158908438	B	-45.61	0.0001	0.15697545
	9 HFET	-8.059438239	B	-55.27	0.0001	0.14581160
	9 NYCC	-6.837722775	B	-45.00	0.0001	0.15194512
	12 FTP	-2.186423443	B	-14.45	0.0001	0.15130732
	12 FTP1	-2.228514028	B	-14.73	0.0001	0.15130732
	12 FTP2	-2.365292860	B	-15.58	0.0001	0.15178100
	12 FTP3	-2.485975742	B	-16.33	0.0001	0.15225139
	12 HFET	-4.256816931	B	-30.60	0.0001	0.13910603
	12 NYCC	-1.116353544	B	-7.62	0.0001	0.14657778
OXY*VEHID*COBLEND	1 ETBE	0.128828901		2.07	0.0389	0.06227707
	1 EtOH	-0.073321863		-1.29	0.1984	0.05696245
	1 EtOH/SB	-0.187753548		-2.61	0.0092	0.07184465
	1 MTBE	-0.134951749		-2.33	0.0200	0.05786614
	1 New+Low+OrigBase	0.000000000		.	.	.
	2 ETBE	-0.041081073		-0.73	0.4653	0.05623913
	2 EtOH	-0.035136944		-0.65	0.5175	0.05426224
	2 EtOH/SB	-0.076327747		-1.40	0.1625	0.05459322
	2 MTBE	0.098875521		1.81	0.0705	0.05459322
	2 New+Low+OrigBase	0.000000000		.	.	.
	3 ETBE	0.048628232		0.87	0.3829	0.05569309
	3 EtOH	0.009614436		0.17	0.8653	0.05667688
	3 EtOH/SB	-0.041818759		-0.77	0.4437	0.05456941

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General Linear Models Procedure

Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND 3 MTBE	0.076353124	1.45	0.1487	0.05281487
3 New+Low+OrigBase	0.000000000	.	.	.
4 ETBE	0.056402283	0.95	0.3431	0.05945809
4 EtOH	0.007931132	0.13	0.8938	0.05939552
4 EtOH/SB	0.095168537	1.66	0.0983	0.05749024
4 MTBE	0.025213071	0.44	0.6567	0.05670669
4 New+Low+OrigBase	0.000000000	.	.	.
5 ETBE	0.185289673	3.22	0.0013	0.05747121
5 EtOH	0.158150178	2.53	0.0116	0.06248772
5 EtOH/SB	-0.044656975	-0.73	0.4632	0.06084228
5 MTBE	0.259581570	4.50	0.0001	0.05774409
5 New+Low+OrigBase	0.000000000	.	.	.
9 ETBE	0.171635164	3.18	0.0015	0.05395516
9 EtOH	-0.124577628	-2.19	0.0287	0.05684594
9 EtOH/SB	0.052380505	0.99	0.3219	0.05284384
9 MTBE	-0.003917577	-0.06	0.9499	0.06237485
9 New+Low+OrigBase	0.000000000	.	.	.
12 ETBE	0.106300230	1.91	0.0569	0.05572734
12 EtOH	0.066448729	1.25	0.2126	0.05325937
12 EtOH/SB	0.078880293	1.60	0.1102	0.04931669
12 MTBE	0.112534947	2.32	0.0208	0.04857216
12 New+Low+OrigBase	0.000000000	.	.	.
CYCLE*TEMP FTP 50	-0.292626392 B	-2.42	0.0157	0.12084524

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General Linear Models Procedure

Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP FTP 75	-0.446303649 B	-4.37	0.0001	0.10223965
FTP 95	0.000000000 B	.	.	.
FTP1 50	-0.386958960 B	-3.20	0.0014	0.12084524
FTP1 75	-0.563268143 B	-5.51	0.0001	0.10223965
FTP1 95	0.000000000 B	.	.	.
FTP2 50	0.022834115 B	0.19	0.8531	0.12328994
FTP2 75	-0.061190173 B	-0.59	0.5528	0.10304220
FTP2 95	0.000000000 B	.	.	.
FTP3 50	-0.116587670 B	-0.93	0.3540	0.12569918
FTP3 75	-0.292853327 B	-2.82	0.0049	0.10378967
FTP3 95	0.000000000 B	.	.	.
HFET 50	0.302099496 B	2.82	0.0050	0.10720708
HFET 75	0.000000000 B	.	.	.
NYCC 50	-0.056291785 B	-0.47	0.6385	0.11977768
NYCC 75	-0.534103151 B	-5.32	0.0001	0.10037629
NYCC 95	0.000000000 B	.	.	.
SEASON Summer	-0.111914990 B	-2.28	0.0228	0.04903418
Winter	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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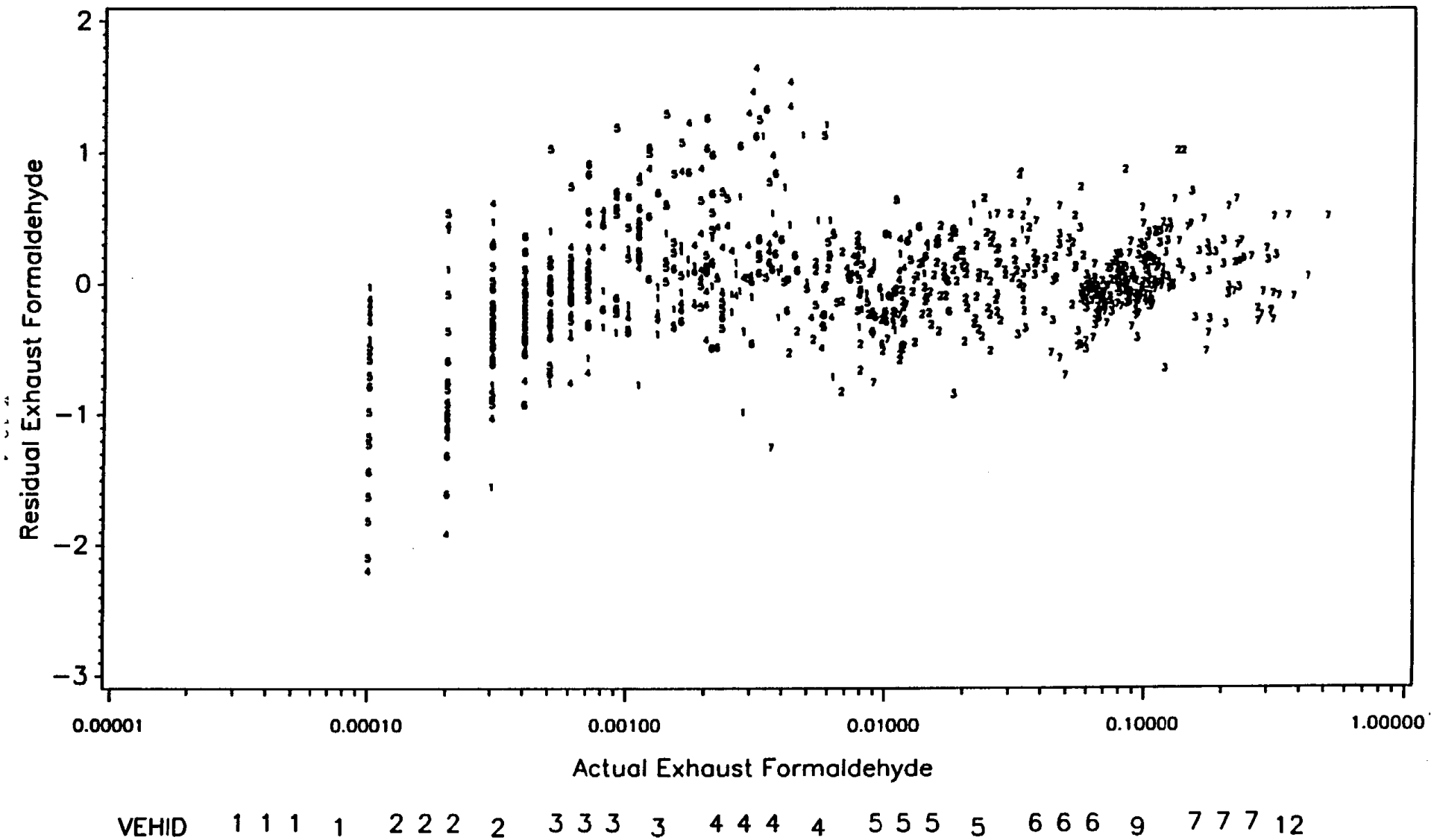
Total Exhaust Formaldehyde Emissions

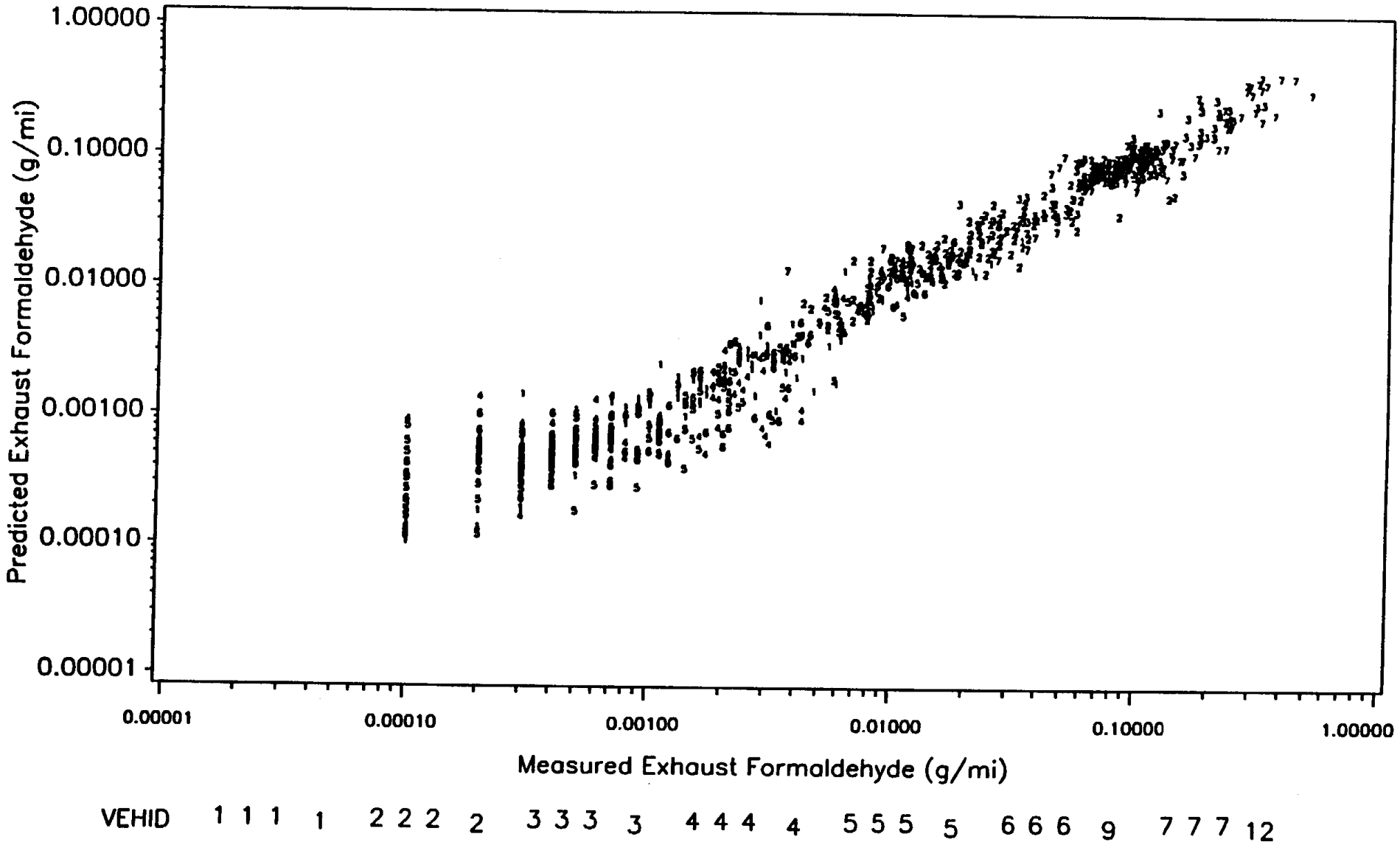
Model: Inform = vehid*cycle vehid*coblend*oxy cycle*temp season



olm1.sas 17NOV93 14:14

Total Exhaust Formaldehyde Emissions

Model: Inform = vehid*cycle vehid*coblend*oxy cycle*temp season



n1.sas 17NOV93 14:14

Total Exhaust Formaldehyde Emissions 1
Model: lnform = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB MTBE New+Low+OrigBase

Number of observations in data set = 984

NOTE: Due to missing values, only 804 observations can be used in this analysis.

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Total Exhaust Formaldehyde Emissions 2
Model: lnform = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: LNFORM

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	70	22920.942093	327.442030	1367.22	0.0001
Error	734	175.788861	0.239494		
Uncorrected Total	804	23096.730954			

R-Square	C.V.	Root MSE	LNFORM Mean
0.953834	-9.991288	0.4893816	-4.3980832

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	22885.590216	544.895005	2275.19	0.0001
OXY*EMSTECH*COBLEND	16	10.809445	0.675590	2.82	0.0002
CYCLE*TEMP	11	22.748979	2.068089	8.64	0.0001
SEASON	1	1.793452	1.793452	7.49	0.0064

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	1045.7644957	29.0490138	121.29	0.0001
OXY*EMSTECH*COBLEND	16	11.4500170	0.7156261	2.99	0.0001
CYCLE*TEMP	11	23.6849649	2.1531786	8.99	0.0001
SEASON	1	1.7934523	1.7934523	7.49	0.0064

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	-5.350125063 B	-36.72	0.0001	0.14571198
1 FTP1	-4.088630142 B	-28.06	0.0001	0.14571198
1 FTP2	-6.338979502 B	-43.35	0.0001	0.14621670
1 FTP3	-7.328187323 B	-48.63	0.0001	0.15068113
1 HFET	-8.991120596 B	-46.84	0.0001	0.19194788
1 NYCC	-6.425095722 B	-42.27	0.0001	0.15198641
2 FTP	-3.557946301 B	-22.24	0.0001	0.15999213
2 FTP1	-2.835458105 B	-17.72	0.0001	0.15999213
2 FTP2	-4.173869125 B	-26.13	0.0001	0.15974162

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General Linear Models Procedure

Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3			
	-3.876733045 B	-24.10	0.0001	0.16083393
	2 HFET			
	-5.103665641 B	-32.45	0.0001	0.15726993
	2 NYCC			
	-3.222571252 B	-20.98	0.0001	0.15361535
	3 FTP			
	-2.156997136 B	-13.34	0.0001	0.16163508
	3 FTP1			
	-2.039362831 B	-12.62	0.0001	0.16163508
	3 FTP2			
	-2.443437720 B	-15.08	0.0001	0.16204678
	3 FTP3			
	-2.362786815 B	-14.54	0.0001	0.16253411
	3 HFET			
	-3.319994447 B	-21.86	0.0001	0.15184530
	3 NYCC			
	-1.395548085 B	-8.69	0.0001	0.16058150
	4 FTP			
	-5.814927353 B	-40.29	0.0001	0.14434177
	4 FTP1			
	-4.406623594 B	-30.53	0.0001	0.14434177
	4 FTP2			
	-7.534369072 B	-50.98	0.0001	0.14779326
	4 FTP3			
	-7.280989636 B	-49.14	0.0001	0.14817606
	4 HFET			
	-8.912287106 B	-48.76	0.0001	0.18278153
	4 NYCC			
	-6.499694787 B	-45.59	0.0001	0.14257531
	5 FTP			
	-5.936274221 B	-40.49	0.0001	0.14660665
	5 FTP1			
	-4.566216040 B	-31.15	0.0001	0.14660665
	5 FTP2			
	-7.317616477 B	-49.00	0.0001	0.14932889
	5 FTP3			
	-7.539748579 B	-49.39	0.0001	0.15267006
	5 HFET			
	-8.642718654 B	-50.07	0.0001	0.17261353
	5 NYCC			
	-6.701739372 B	-45.28	0.0001	0.14799151
	9 FTP			
	-5.501933422 B	-37.56	0.0001	0.14647451
	9 FTP1			
	-4.048028306 B	-27.64	0.0001	0.14647451

General Linear Models Procedure

Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2			
	-7.393105349 B	-49.08	0.0001	0.15064311
	9 FTP3			
	-7.145525464 B	-47.58	0.0001	0.15017126
	9 HFET			
	-8.046803551 B	-58.98	0.0001	0.13644212
	9 NYCC			
	-6.836861882 B	-47.38	0.0001	0.14429911
	12 FTP			
	-2.160335484 B	-13.87	0.0001	0.15571231
	12 FTP1			
	-2.202426070 B	-14.14	0.0001	0.15571231
	12 FTP2			
	-2.346875712 B	-15.03	0.0001	0.15614676
	12 FTP3			
	-2.460235999 B	-15.70	0.0001	0.15658116
	12 HFET			
	-4.234992552 B	-29.59	0.0001	0.14312684
	12 NYCC			
	-1.097617666 B	-7.28	0.0001	0.15085428
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE			
	0.128690588	4.30	0.0001	0.02992663
	3wayAdaptive EtOH			
	-0.016189329	-0.53	0.5942	0.03037820
	3wayAdaptive EtOH/SB			
	-0.004717294	-0.15	0.8777	0.03065403
	3wayAdaptive MTBE			
	0.038179515	1.27	0.2039	0.03002479
	3wayAdaptive New+Low+OrigBase			
	0.000000000	.	.	.
	3wayNonadapt ETBE			
	-0.043426769	-0.75	0.4537	0.05793254
	3wayNonadapt EtOH			
	-0.036810464	-0.66	0.5104	0.05569818
	3wayNonadapt EtOH/SB			
	-0.078106962	-1.39	0.1653	0.05623879
	3wayNonadapt MTBE			
	0.097096306	1.73	0.0847	0.05623879
	3wayNonadapt New+Low+OrigBase			
	0.000000000	.	.	.
	Noncatalyst ETBE			
	0.046464873	0.81	0.4183	0.05737078
	Noncatalyst EtOH			
	0.007384135	0.13	0.8994	0.05838340
	Noncatalyst EtOH/SB			
	-0.043722195	-0.78	0.4369	0.05621401

General Linear Models Procedure

Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst MTBE			
	0.075013964	1.38	0.1684	0.05440771
	Noncatalyst New+Low+OrigBase			
	0.000000000	.	.	.
	Oxycatalyst ETBE			
	0.105713532	1.84	0.0660	0.05740954
	Oxycatalyst EtOH			
	0.065143292	1.19	0.2355	0.05486605
	Oxycatalyst EtOH/SB			
	0.078645724	1.55	0.1220	0.05080345
	Oxycatalyst MTBE			
	0.111973840	2.24	0.0255	0.05003660
	Oxycatalyst New+Low+OrigBase			
	0.000000000	.	.	.
CYCLE*TEMP	FTP 50			
	-0.327500809 B	-2.64	0.0085	0.12409984
	FTP 75			
	-0.451068926 B	-4.28	0.0001	0.10530867
	FTP 95			
	0.000000000 B	.	.	.
	FTP1 50			
	-0.421833377 B	-3.40	0.0007	0.12409984
	FTP1 75			
	-0.568033420 B	-5.39	0.0001	0.10530867
	FTP1 95			
	0.000000000 B	.	.	.
	FTP2 50			
	-0.000791897 B	-0.01	0.9950	0.12641227
	FTP2 75			
	-0.057311309 B	-0.54	0.5893	0.10612784
	FTP2 95			
	0.000000000 B	.	.	.
	FTP3 50			
	-0.143211858 B	-1.11	0.2676	0.12909509
	FTP3 75			
	-0.303417892 B	-2.84	0.0046	0.10686025
	FTP3 95			
	0.000000000 B	.	.	.
	HFET 50			
	0.273919321 B	2.49	0.0129	0.10990133
	HFET 75			
	0.000000000 B	.	.	.
	NYCC 50			
	-0.072161910 B	-0.59	0.5579	0.12310233
	NYCC 75			
	-0.536495250 B	-5.19	0.0001	0.10329733

General Linear Models Procedure

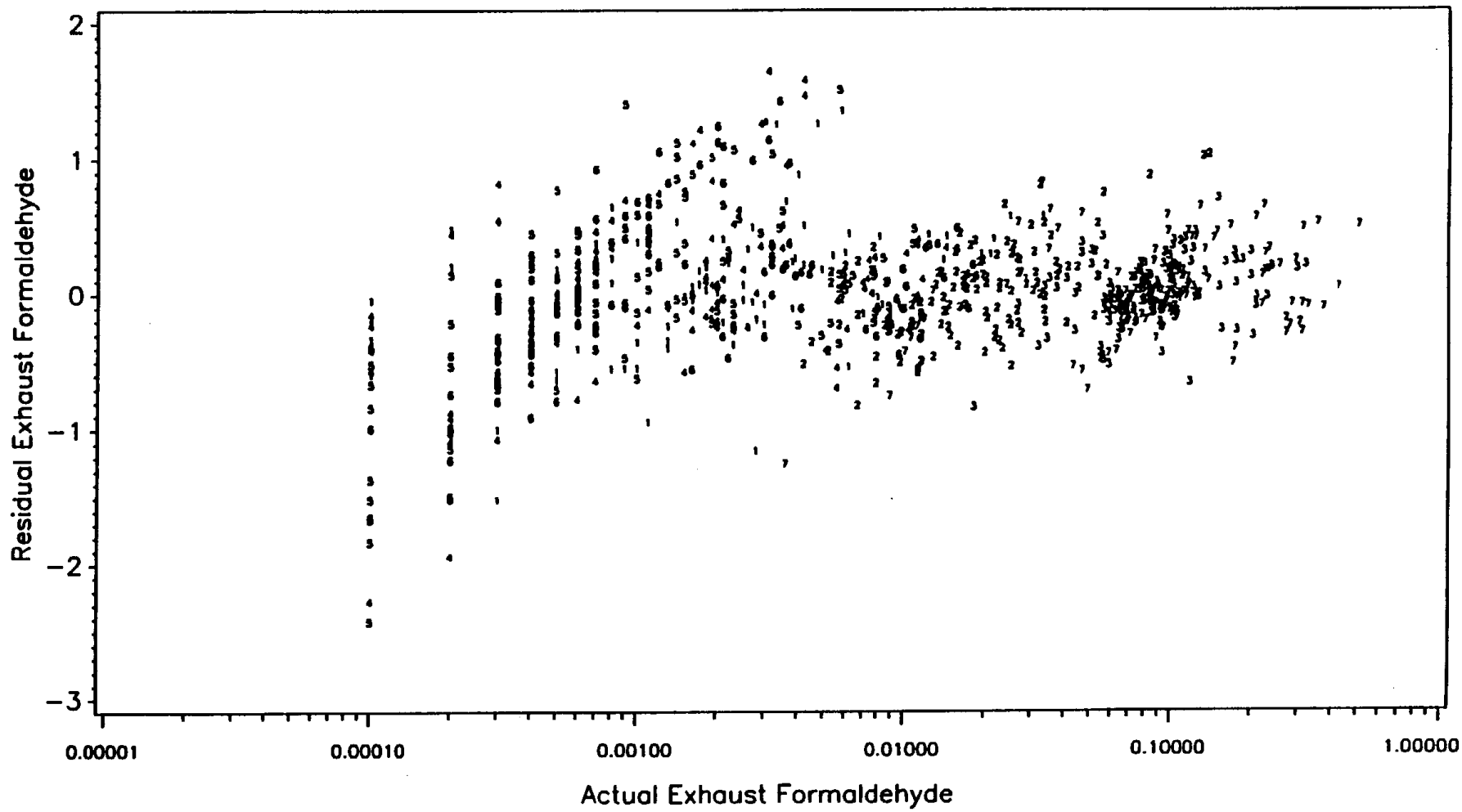
Dependent Variable: LNFORM

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	NYCC 95			
	0.000000000 B	.	.	.
SEASON	Summer			
	-0.136511111 B	-2.74	0.0064	0.04988509
	Winter			
	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust Formaldehyde Emissions

Model: Inform = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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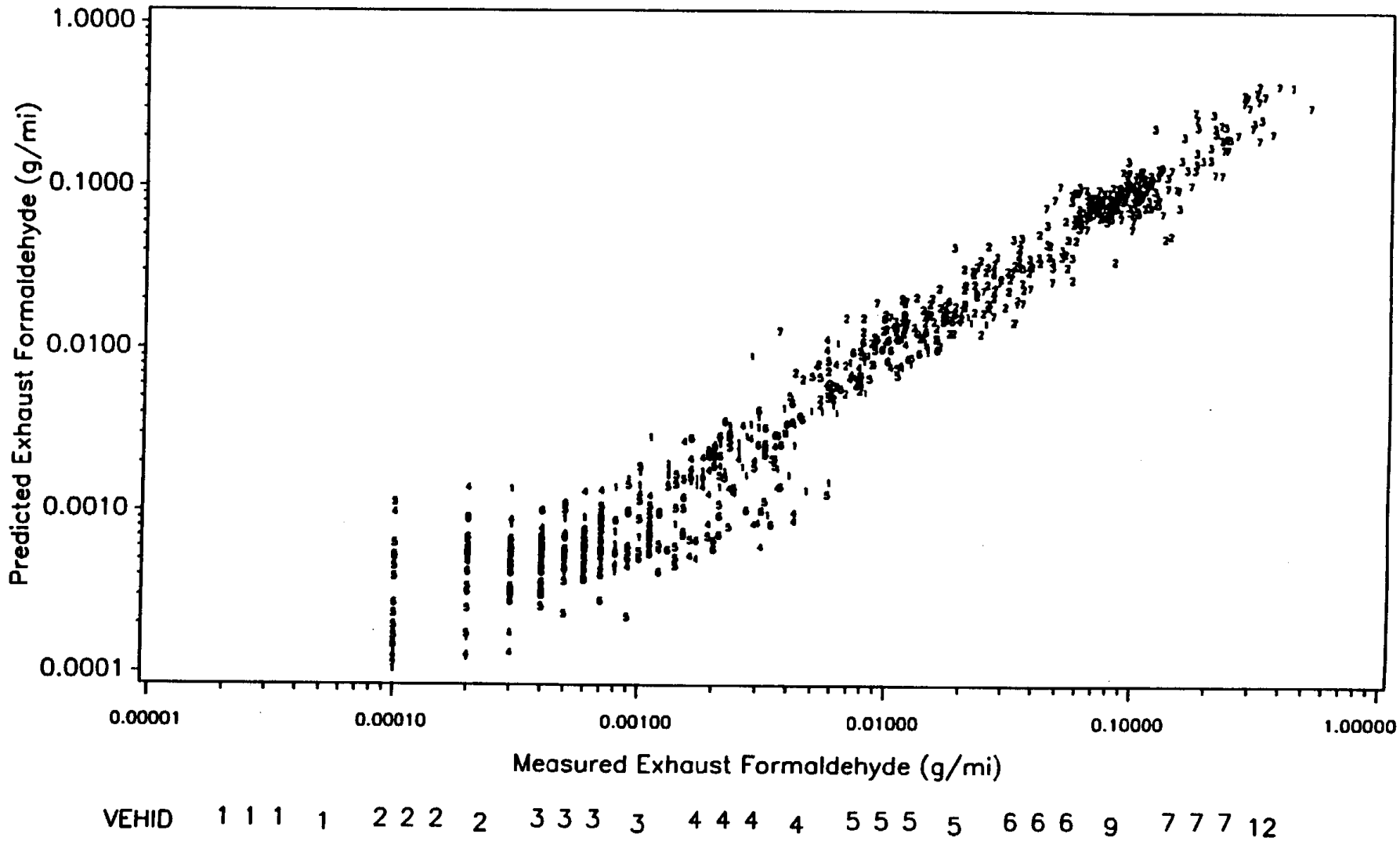
Total Exhaust Formaldehyde Emissions

Model: Inform = vehid*cycle emstech*coblend*oxy cycle*temp season



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Total Exhaust Acetaldehyde Emissions 1
Model: Acet**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 942

NOTE: Due to missing values, only 764 observations can be used in this analysis.

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Total Exhaust Acetaldehyde Emissions 2
Model: Acet**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: ACET3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	82	45.23371860	0.55163071	779.35	0.0001
Error	682	0.48272549	0.00070781		
Uncorrected Total	764	45.71644408			

R-Square	C.V.	Root MSE	ACET3 Mean
0.947685	12.17369	0.0266047	0.2185424

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	44.87387119	1.06842550	1509.48	0.0001
OXY*VEHID*COBLEND	28	0.32609431	0.01164623	16.45	0.0001
CYCLE*TEMP	11	0.03362526	0.00305684	4.32	0.0001
SEASON	1	0.00012784	0.00012784	0.18	0.6710

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	2.00115039	0.05558751	78.53	0.0001
OXY*VEHID*COBLEND	28	0.31879740	0.01138562	16.09	0.0001
CYCLE*TEMP	11	0.03308772	0.00300797	4.25	0.0001
SEASON	1	0.00012784	0.00012784	0.18	0.6710

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	0.1433214532 B	16.09	0.0001	0.00890669
1 FTP1	0.2152374587 B	24.17	0.0001	0.00890548
1 FTP2	0.0803585363 B	8.32	0.0001	0.00966061
1 FTP3	0.1102525040 B	12.23	0.0001	0.00901659
1 HFET	0.0551710247 B	5.51	0.0001	0.01001559
1 NYCC	0.1014824169 B	10.73	0.0001	0.00945781
2 FTP	0.2281273481 B	25.07	0.0001	0.00909959
2 FTP1	0.2830060118 B	31.11	0.0001	0.00909746
2 FTP2	0.1932382234 B	21.17	0.0001	0.00912593

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General Linear Models Procedure

Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3	0.2149851221 B	23.53	0.0001	0.00913566
	2 HFET	0.1590787039 B	17.56	0.0001	0.00905813
	2 NYCC	0.2669789436 B	30.29	0.0001	0.00881436
	3 FTP	0.2973857074 B	32.35	0.0001	0.00919409
	3 FTP1	0.3091193326 B	33.63	0.0001	0.00919224
	3 FTP2	0.2807355222 B	30.29	0.0001	0.00926874
	3 FTP3	0.2947484252 B	31.91	0.0001	0.00923646
	3 HFET	0.2294395705 B	26.22	0.0001	0.00875145
	3 NYCC	0.3891937535 B	42.12	0.0001	0.00923942
	4 FTP	0.1425746579 B	15.35	0.0001	0.00928808
	4 FTP1	0.2126098165 B	22.92	0.0001	0.00927584
	4 FTP2	0.0779831111 B	8.31	0.0001	0.00938942
	4 FTP3	0.1116348499 B	11.96	0.0001	0.00933438
	4 HFET	0.0498254780 B	4.94	0.0001	0.01007930
	4 NYCC	0.0958279884 B	9.65	0.0001	0.00993155
	5 FTP	0.1436311641 B	15.52	0.0001	0.00925756
	5 FTP1	0.2120210845 B	22.91	0.0001	0.00925614
	5 FTP2	0.0879402289 B	9.20	0.0001	0.00956075
	5 FTP3	0.1018602334 B	10.49	0.0001	0.00970989
	5 HFET	0.0618389617 B	6.67	0.0001	0.00926687
	5 NYCC	0.1147338971 B	11.64	0.0001	0.00985893
	9 FTP	0.1475496014 B	16.00	0.0001	0.00922111
	9 FTP1	0.2306778556 B	25.02	0.0001	0.00921906

General Linear Models Procedure

Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2	0.0654163272 B	6.34	0.0001	0.01032500
	9 FTP3	0.1260677470 B	13.58	0.0001	0.00928034
	9 HFET	0.0545848947 B	5.84	0.0001	0.00934254
	9 NYCC	0.1517316561 B	16.44	0.0001	0.00922662
	12 FTP	0.3106092599 B	35.23	0.0001	0.00881545
	12 FTP1	0.3080636040 B	34.96	0.0001	0.00881256
	12 FTP2	0.3095527624 B	34.84	0.0001	0.00888597
	12 FTP3	0.2895732278 B	32.70	0.0001	0.00885493
	12 HFET	0.1697118716 B	20.87	0.0001	0.00813118
	12 NYCC	0.4654318063 B	54.09	0.0001	0.00860460
OXY*VEHID*COBLEND	1 ETBE	0.0124627484	3.23	0.0013	0.00385718
	1 EtOH	0.0137862221	4.08	0.0001	0.00337938
	1 EtOH/SB	0.0063482622	1.72	0.0856	0.00368693
	1 Low+OrigBase	0.0000000000	.	.	.
	1 MTBE	0.0008425514	0.26	0.7937	0.00322005
	2 ETBE	0.0247747650	7.51	0.0001	0.00329777
	2 EtOH	0.0225366412	7.04	0.0001	0.00319914
	2 EtOH/SB	0.0195006190	6.06	0.0001	0.00321571
	2 Low+OrigBase	0.0000000000	.	.	.
	2 MTBE	-.0060212057	-1.87	0.0616	0.00321571
	3 ETBE	0.0254873437	7.79	0.0001	0.00327297
	3 EtOH	0.0244322710	7.36	0.0001	0.00331978
	3 EtOH/SB	0.0168633979	5.25	0.0001	0.00321373

General Linear Models Procedure

Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND	3 Low+OrigBase	0.0000000000	.	.	.
	3 MTBE	0.0035938866	1.15	0.2508	0.00312666
	4 ETBE	0.0058911006	1.66	0.0982	0.00355746
	4 EtOH	0.0062270405	1.81	0.0714	0.00344901
	4 EtOH/SB	0.0031158365	0.90	0.3687	0.00346396
	4 Low+OrigBase	0.0000000000	.	.	.
	4 MTBE	0.0085770482	2.61	0.0093	0.00328989
	5 ETBE	0.0026668902	0.78	0.4386	0.00344094
	5 EtOH	0.0033008642	0.91	0.3612	0.00361232
	5 EtOH/SB	0.0049198890	1.46	0.1442	0.00336487
	5 Low+OrigBase	0.0000000000	.	.	.
	5 MTBE	-.0033584044	-1.00	0.3157	0.00334470
	9 ETBE	0.0094507914	2.81	0.0051	0.00336721
	9 EtOH	0.0162721161	4.77	0.0001	0.00341142
	9 EtOH/SB	0.0171237893	5.52	0.0001	0.00309944
	9 Low+OrigBase	0.0000000000	.	.	.
	9 MTBE	0.0021178036	0.53	0.5977	0.00401169
	12 ETBE	0.0251769389	7.75	0.0001	0.00324958
	12 EtOH	0.0178050280	5.72	0.0001	0.00311042
	12 EtOH/SB	0.0227444768	7.84	0.0001	0.00290288
	12 Low+OrigBase	0.0000000000	.	.	.
	12 MTBE	0.0015441241	0.54	0.5896	0.00286103
CYCLE*TEMP	FTP 50	-.0034259072 B	-0.49	0.6271	0.00704945

General Linear Models Procedure

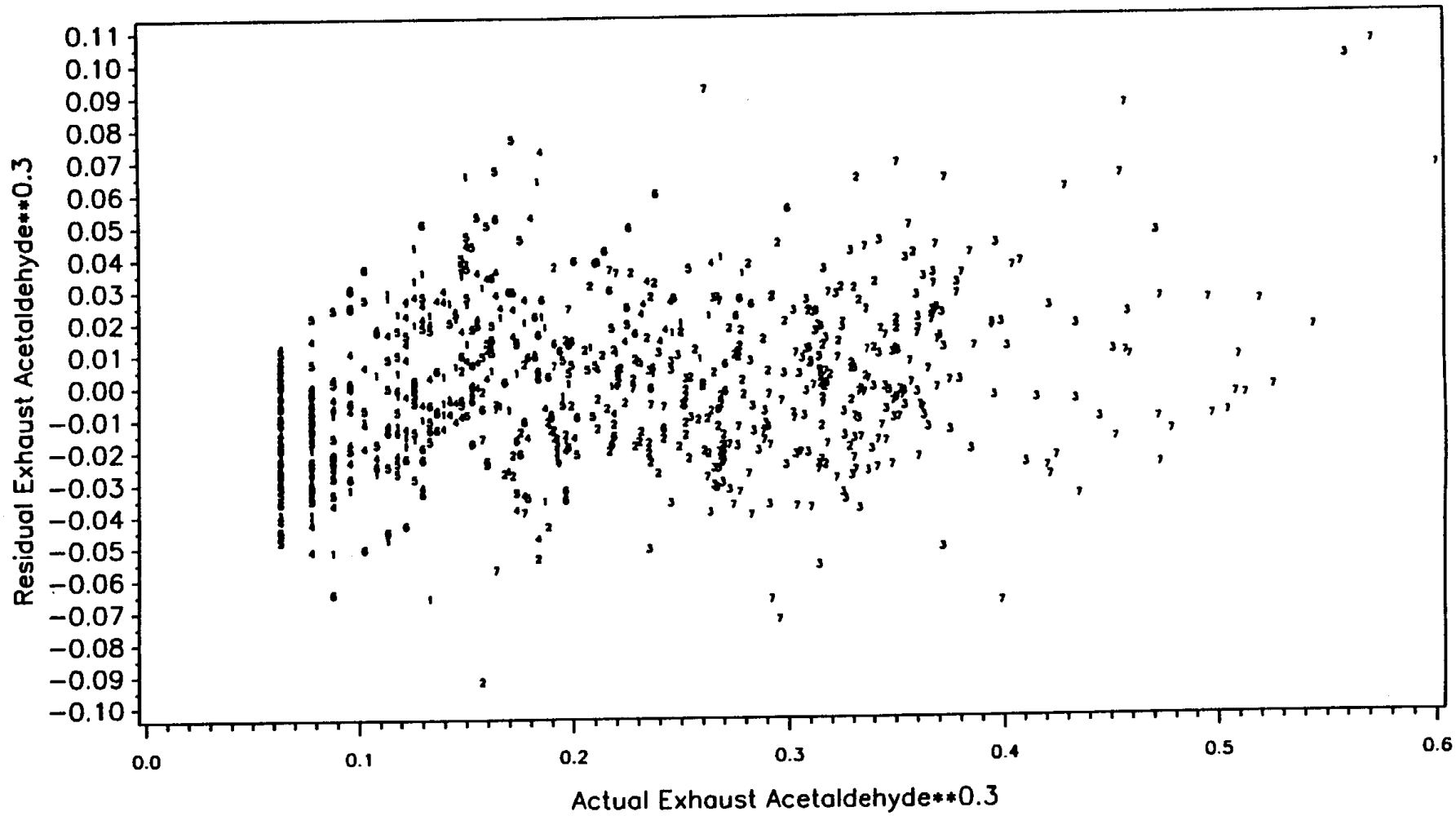
Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	FTP 75	-.0085452511 B	-1.49	0.1364	0.00573036
	FTP 95	0.0000000000 B	.	.	.
	FTP1 50	-.0017816904 B	-0.25	0.7992	0.00699969
	FTP1 75	-.0191310604 B	-3.34	0.0009	0.00573020
	FTP1 95	0.0000000000 B	.	.	.
	FTP2 50	-.0002812043 B	-0.04	0.9690	0.00722773
	FTP2 75	0.0125673636 B	2.10	0.0365	0.00599629
	FTP2 95	0.0000000000 B	.	.	.
	FTP3 50	-.0070464559 B	-0.99	0.3241	0.00714090
	FTP3 75	0.0005328532 B	0.09	0.9272	0.00583199
	FTP3 95	0.0000000000 B	.	.	.
	HFET 50	0.0110825380 B	1.80	0.0725	0.00616109
	HFET 75	0.0000000000 B	.	.	.
	NYCC 50	0.0006384828 B	0.09	0.9268	0.00694462
	NYCC 75	-.0188699466 B	-3.18	0.0016	0.00593796
	NYCC 95	0.0000000000 B	.	.	.
SEASON	Summer	0.0011901672 B	0.42	0.6710	0.00280049
	Winter	0.0000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust Acetaldehyde Emissions

Model: Acet**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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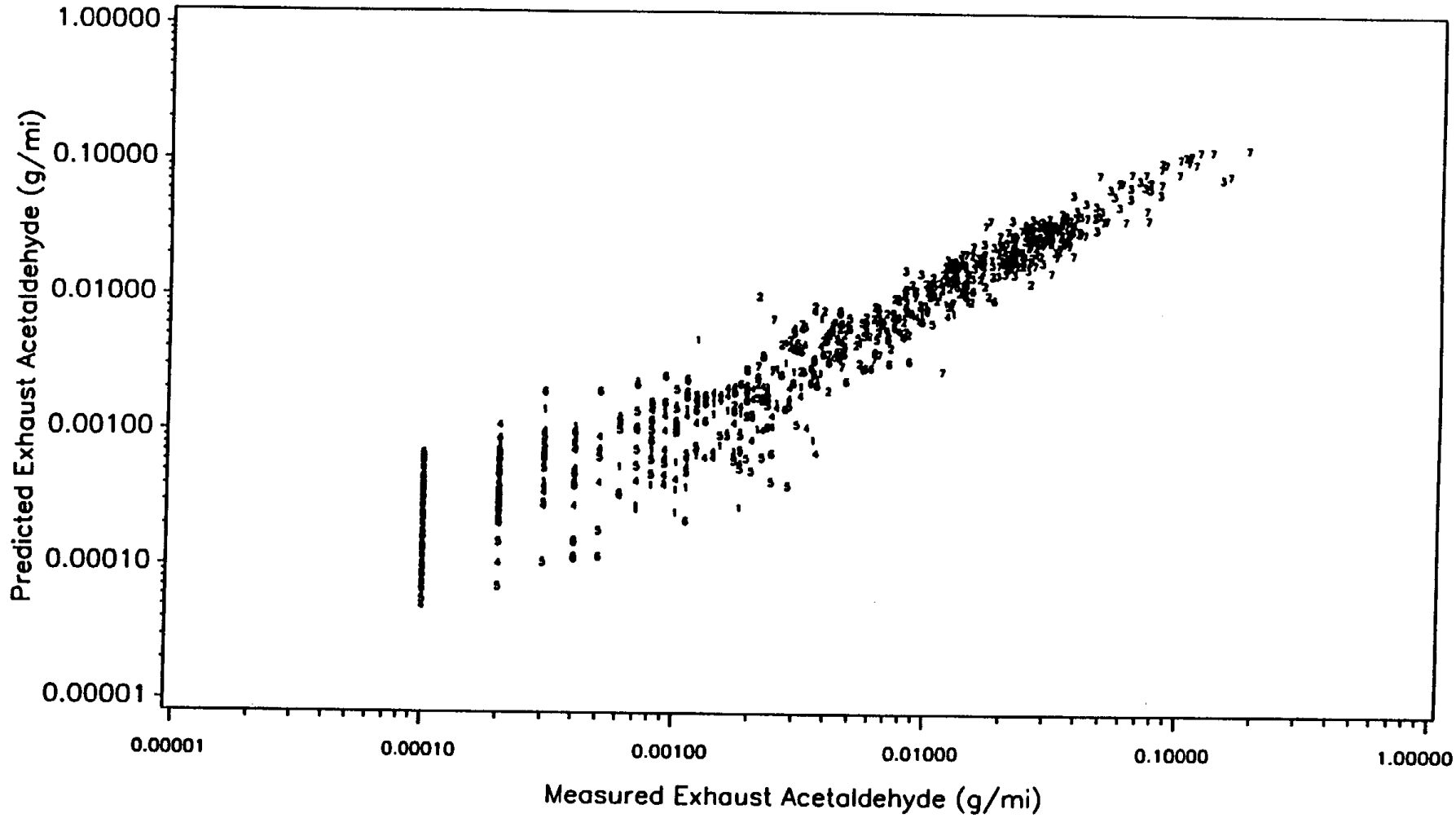
Total Exhaust Acetaldehyde Emissions

Model: Acet**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Total Exhaust Acetaldehyde Emissions 1
Model: Acet**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	6	ETBE EtOH EtOH/SB LowRVPBase MTBE xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB Low+OrigBase MTBE

Number of observations in data set = 942

NOTE: Due to missing values, only 764 observations can be used in this analysis.

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Total Exhaust Acetaldehyde Emissions 2
Model: Acet**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: ACET3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	70	45.20790119	0.64582716	881.35	0.0001
Error	694	0.50854289	0.00073277		
Uncorrected Total	764	45.71644408			

R-Square	C.V.	Root MSE	ACET3 Mean
0.944887	12.38649	0.0270697	0.2185424

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	42	44.87387119	1.06842550	1458.06	0.0001
OXY*EMSTECH*COBLEND	16	0.30219262	0.01888704	25.77	0.0001
CYCLE*TEMP	11	0.03183329	0.00289394	3.95	0.0001
SEASON	1	0.00000409	0.00000409	0.01	0.9405

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	36	2.05672760	0.05713132	77.97	0.0001
OXY*EMSTECH*COBLEND	16	0.29298000	0.01831125	24.99	0.0001
CYCLE*TEMP	11	0.03139397	0.00285400	3.89	0.0001
SEASON	1	0.00000409	0.00000409	0.01	0.9405

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	0.1463161686 B	17.71	0.0001	0.00826206
1 FTP1	0.2181327534 B	26.41	0.0001	0.00825910
1 FTP2	0.0830285272 B	9.33	0.0001	0.00890256
1 FTP3	0.1120014290 B	13.27	0.0001	0.00843770
1 HFET	0.0562274591 B	5.91	0.0001	0.00951502
1 NYCC	0.1040208812 B	11.96	0.0001	0.00869490
2 FTP	0.2294765060 B	24.82	0.0001	0.00924418
2 FTP1	0.2842274961 B	30.75	0.0001	0.00924256
2 FTP2	0.1945369139 B	20.98	0.0001	0.00927247

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General Linear Models Procedure

Dependent Variable: ACET3

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 FTP3			
	0.2159046242 B	23.26	0.0001	0.00928043
	2 HFET			
	0.1607019908 B	17.46	0.0001	0.00920525
	2 NYCC			
	0.2686898464 B	30.02	0.0001	0.00895098
	3 FTP			
	0.2987612851 B	31.99	0.0001	0.00933976
	3 FTP1			
	0.3103754649 B	33.24	0.0001	0.00933838
	3 FTP2			
	0.2820450418 B	29.95	0.0001	0.00941773
	3 FTP3			
	0.2957111986 B	31.52	0.0001	0.00938205
	3 HFET			
	0.2309526070 B	25.97	0.0001	0.00889313
	3 NYCC			
	0.3909926472 B	41.67	0.0001	0.00938335
	4 FTP			
	0.1419473825 B	17.32	0.0001	0.00819398
	4 FTP1			
	0.2126888349 B	26.16	0.0001	0.00813185
	4 FTP2			
	0.0777821501 B	9.27	0.0001	0.00838799
	4 FTP3			
	0.1121175730 B	13.57	0.0001	0.00826467
	4 HFET			
	0.0480528035 B	5.57	0.0001	0.00862972
	4 NYCC			
	0.0941617066 B	10.70	0.0001	0.00880175
	5 FTP			
	0.1351800450 B	16.23	0.0001	0.00832733
	5 FTP1			
	0.2034705447 B	24.44	0.0001	0.00832438
	5 FTP2			
	0.0792473442 B	9.08	0.0001	0.00873091
	5 FTP3			
	0.0924918382 B	10.67	0.0001	0.00866961
	5 HFET			
	0.0526655422 B	6.46	0.0001	0.00815876
	5 NYCC			
	0.1048202066 B	12.07	0.0001	0.00868290
	9 FTP			
	0.1571271113 B	18.90	0.0001	0.00831449
	9 FTP1			
	0.2401276919 B	28.89	0.0001	0.00831067

General Linear Models Procedure

Dependent Variable: ACET3

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 FTP2			
	0.0770788045 B	8.18	0.0001	0.00942426
	9 FTP3			
	0.1358186838 B	16.06	0.0001	0.00845531
	9 HFET			
	0.0654647177 B	7.85	0.0001	0.00833550
	9 NYCC			
	0.1617103633 B	19.51	0.0001	0.00828835
	12 FTP			
	0.3118138189 B	34.82	0.0001	0.00895630
	12 FTP1			
	0.3091116140 B	34.52	0.0001	0.00895394
	12 FTP2			
	0.3106926114 B	34.41	0.0001	0.00903006
	12 FTP3			
	0.2902637671 B	32.27	0.0001	0.00899609
	12 HFET			
	0.1713747571 B	20.75	0.0001	0.00826016
	12 NYCC			
	0.4670481472 B	53.45	0.0001	0.00873863
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE			
	0.0072858575	4.04	0.0001	0.00180503
	3wayAdaptive EtOH			
	0.0100791577	5.71	0.0001	0.00176642
	3wayAdaptive EtOH/SB			
	0.0086411247	5.01	0.0001	0.00172499
	3wayAdaptive Low+OrigBase			
	0.0000000000	.	.	.
	3wayAdaptive MTBE			
	0.0029678769	1.71	0.0884	0.00173934
	3wayNonadapt ETBE			
	0.0246917594	7.36	0.0001	0.00335505
	3wayNonadapt EtOH			
	0.0224782593	6.91	0.0001	0.00325488
	3wayNonadapt EtOH/SB			
	0.0194451993	5.94	0.0001	0.00327173
	3wayNonadapt Low+OrigBase			
	0.0000000000	.	.	.
	3wayNonadapt MTBE			
	-.0060766254	-1.86	0.0637	0.00327173
	Noncatalyst ETBE			
	0.0253856744	7.62	0.0001	0.00332990
	Noncatalyst EtOH			
	0.0243518200	7.21	0.0001	0.00337747
	Noncatalyst EtOH/SB			
	0.0167996587	5.14	0.0001	0.00326968

General Linear Models Procedure

Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Noncatalyst Low+OrigBase	0.0000000000	.	.	.
	Noncatalyst MTBE	0.0035500651	1.12	0.2648	0.00318121
	Oxycatalyst ETBE	0.0252373491	7.63	0.0001	0.00330625
	Oxycatalyst EtOH	0.0178046060	5.63	0.0001	0.00316465
	Oxycatalyst EtOH/SB	0.0228442714	7.74	0.0001	0.00295329
	Oxycatalyst Low+OrigBase	0.0000000000	.	.	.
	Oxycatalyst MTBE	0.0016141430	0.55	0.5794	0.00291074
CYCLE*TEMP	FTP 50	-.0055627986 B	-0.78	0.4361	0.00713847
	FTP 75	-.0085619151 B	-1.47	0.1423	0.00582870
	FTP 95	0.0000000000 B	.	.	.
	FTP1 50	-.0034002209 B	-0.48	0.6318	0.00709321
	FTP1 75	-.0191661693 B	-3.29	0.0011	0.00582859
	FTP1 95	0.0000000000 B	.	.	.
	FTP2 50	-.0023274215 B	-0.32	0.7508	0.00732566
	FTP2 75	0.0126295898 B	2.07	0.0386	0.00609567
	FTP2 95	0.0000000000 B	.	.	.
	FTP3 50	-.0076340183 B	-1.06	0.2918	0.00723570
	FTP3 75	0.0005625022 B	0.09	0.9244	0.00592920
	FTP3 95	0.0000000000 B	.	.	.
	HFET 50	0.0079969524 B	1.28	0.1993	0.00622453
	HFET 75	0.0000000000 B	.	.	.
	NYCC 50	-.0018134331 B	-0.26	0.7965	0.00702803
	NYCC 75	-.0195130830 B	-3.23	0.0013	0.00603568

General Linear Models Procedure

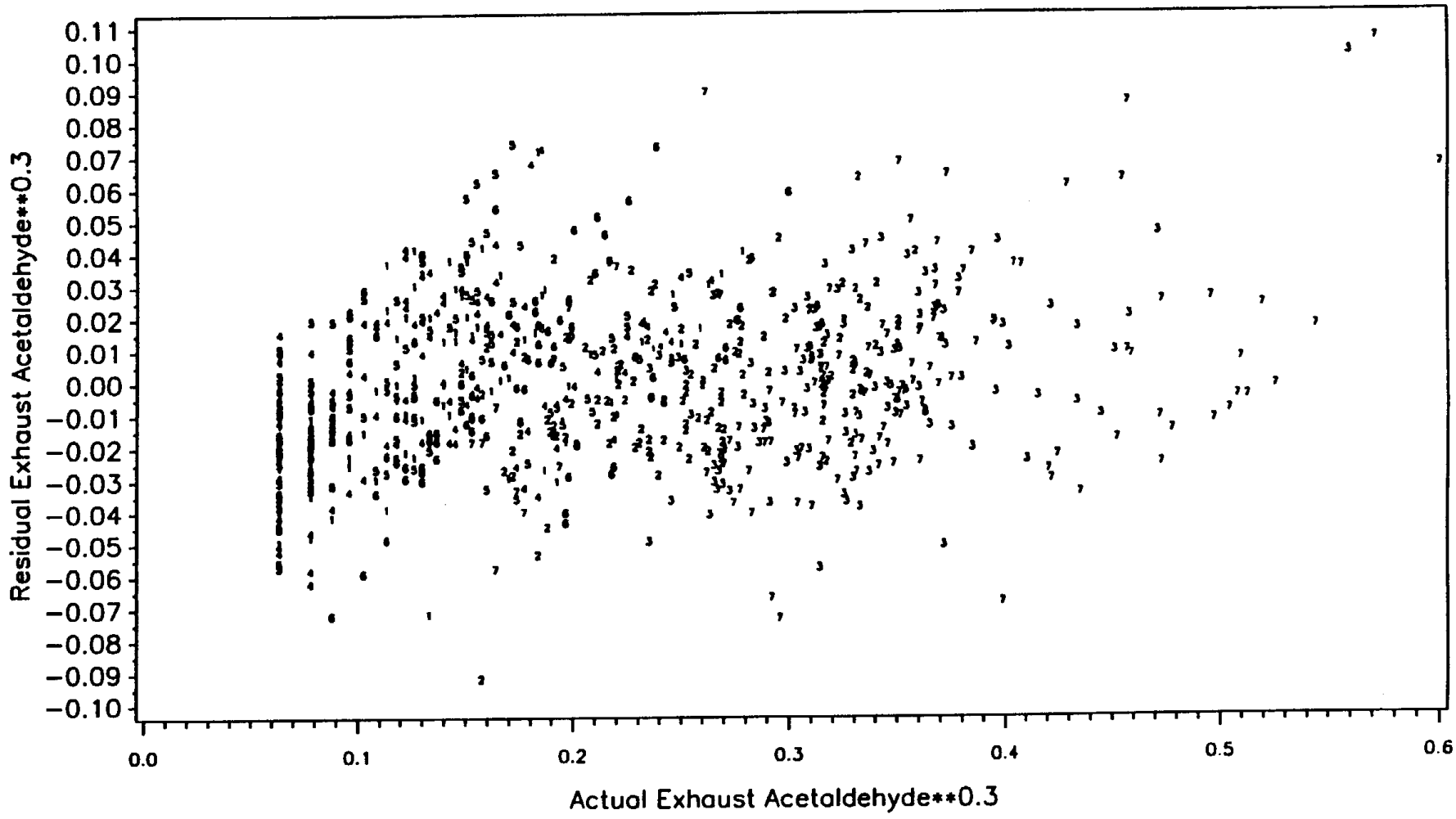
Dependent Variable: ACET3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	NYCC 95	0.0000000000 B	.	.	.
SEASON	Summer	-.0002092379 B	-0.07	0.9405	0.00280128
	Winter	0.0000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust Acetaldehyde Emissions

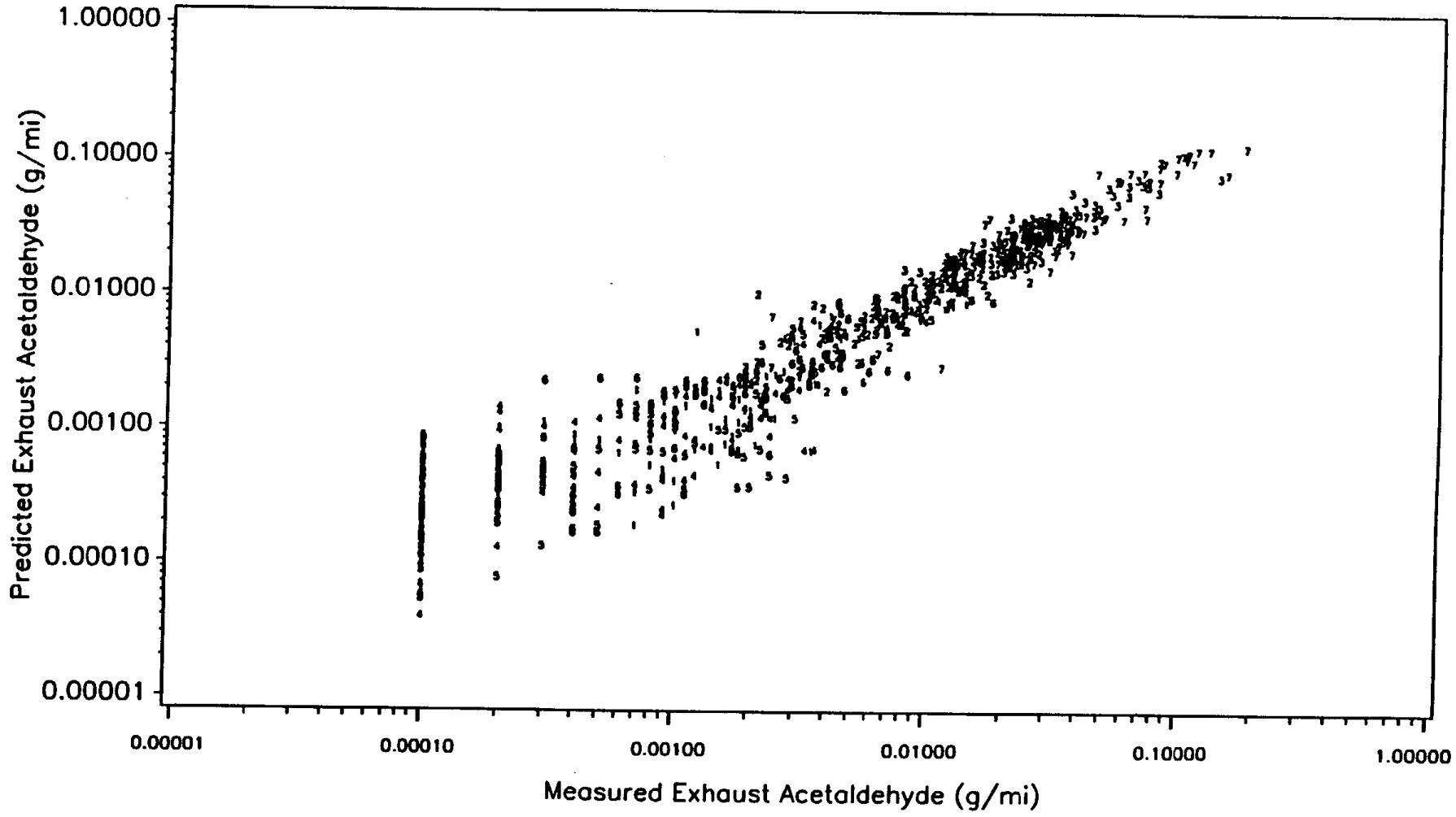
Model: Acet**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

Total Exhaust Acetaldehyde Emissions

Model: Acet**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Total Exhaust 1,3-Butadiene Emissions 1
Model: But**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB High+Low+OrigBas MTBE

Number of observations in data set = 978

NOTE: Due to missing values, only 627 observations can be used in this analysis.

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Total Exhaust 1,3-Butadiene Emissions 2
Model: But**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: BUT3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	79	39.28634845	0.49729555	725.04	0 0001
Error	548	0.37586850	0.00068589		
Uncorrected Total	627	39.66221695			

R-Square	C.V	Root MSE	BUT3 Mean
0.920912	11.09912	0.0261895	0 2359605

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	39	39.20043176	1.00513928	1465.45	0 0001
OXY*VEHID*COBLEND	28	0.06195646	0.00221273	3.23	0 0001
CYCLE*TEMP	11	0.01976032	0.00179639	2.62	0.0029
SEASON	1	0.00419991	0.00419991	6.12	0 0136

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	33	1.12655184	0.03413793	49.77	0.0001
OXY*VEHID*COBLEND	28	0.06572482	0.00234731	3.42	0 0001
CYCLE*TEMP	11	0.02396019	0.00217820	3.18	0 0003
SEASON	1	0.00419991	0 00419991	6.12	0.0136

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	0.1636169536 B	17.33	0.0001	0.00943923
1 FTP1	0.2463570296 B	26.11	0.0001	0.00943681
1 FTP3	0.1214304376 B	7.09	0.0001	0.01712624
1 HFET	0.0860979346 B	4.49	0.0001	0.01916644
1 NYCC	0.2050563941 B	11.96	0.0001	0.01715168
2 FTP	0.2636796705 B	30.17	0.0001	0.00873308
2 FTP1	0.3192106120 B	36.54	0.0001	0.00873529
2 FTP2	0.2360508838 B	23.69	0.0001	0.00996594
2 FTP3	0.2622895591 B	28.79	0.0001	0.00911029

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General Linear Models Procedure

Dependent Variable: BUT3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 HFET	0.2099815072 B	24.43	0.0001	0.00859526
	2 NYCC	0.2868941515 B	32.12	0.0001	0.00893085
	3 FTP	0.3424041652 B	38.84	0.0001	0.00881566
	3 FTP1	0.3733515205 B	42.37	0.0001	0.00881230
	3 FTP2	0.3414044238 B	33.50	0.0001	0.01019074
	3 FTP3	0.3233436378 B	35.03	0.0001	0.00923032
	3 HFET	0.2589969971 B	31.47	0.0001	0.00822948
	3 NYCC	0.4195556892 B	44.42	0.0001	0.00944608
	4 FTP	0.1544469611 B	16.46	0.0001	0.00938087
	4 FTP1	0.2240269375 B	23.86	0.0001	0.00938743
	4 FTP2	0.1372227731 B	6.42	0.0001	0.02136544
	4 FTP3	0.1272238379 B	12.56	0.0001	0.01013006
	4 HFET	0.1013534087 B	9.63	0.0001	0.01052656
	4 NYCC	0.1688207046 B	5.66	0.0001	0.02982115
	5 FTP	0.1420079749 B	13.76	0.0001	0.01032359
	5 FTP1	0.2143310400 B	20.77	0.0001	0.01032086
	5 FTP3	0.1227422743 B	5.48	0.0001	0.02237957
	5 HFET	0.1022537422 B	4.41	0.0001	0.02320791
	5 NYCC	0.2305175744 B	8.36	0.0001	0.02758217
	9 FTP	0.1529490255 B	17.34	0.0001	0.00881914
	9 FTP1	0.2138718387 B	24.27	0.0001	0.00881380
	9 FTP3	0.1579520766 B	16.89	0.0001	0.00935298
	9 HFET	0.1340638405 B	15.26	0.0001	0.00878778

General Linear Models Procedure

Dependent Variable: BUT3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 NYCC	0.1807523152 B	18.50	0.0001	0.00976847
	12 FTP	0.2876138041 B	34.31	0.0001	0.00838204
	12 FTP1	0.3312737245 B	40.06	0.0001	0.00826893
	12 FTP2	0.2773781359 B	28.90	0.0001	0.00959804
	12 FTP3	0.2746976290 B	31.43	0.0001	0.00873889
	12 HFET	0.1725952822 B	22.61	0.0001	0.00763485
	12 NYCC	0.4125646507 B	46.87	0.0001	0.00880302
OXY*VEHID*COBLEND	1 ETBE	-.0029109178	-0.52	0.6064	0.00564686
	1 EtOH	-.0046691374	-0.99	0.3227	0.00471701
	1 EtOH/SB	-.0069657850	-1.30	0.1937	0.00535288
	1 High+Low+OrigBas	0.0000000000	.	.	.
	1 MTBE	-.0042956274	-0.95	0.3443	0.00453806
	2 ETBE	-.0168016017	-5.33	0.0001	0.00315243
	2 EtOH	-.0018828740	-0.61	0.5404	0.00307398
	2 EtOH/SB	-.0068182722	-2.25	0.0251	0.00303582
	2 High+Low+OrigBas	0.0000000000	.	.	.
	2 MTBE	-.0155427786	-5.02	0.0001	0.00309452
	3 ETBE	-.0140823609	-4.64	0.0001	0.00303328
	3 EtOH	-.0114142080	-3.62	0.0003	0.00315152
	3 EtOH/SB	-.0082151840	-2.71	0.0070	0.00303328
	3 High+Low+OrigBas	0.0000000000	.	.	.
	3 MTBE	-.0095942783	-3.27	0.0012	0.00293742
	4 ETBE	-.0052269353	-1.31	0.1911	0.00399346

General Linear Models Procedure

Dependent Variable: BUT3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*COBLEND	4 EtOH	0.0028051036	0.68	0.4966	0.00412314
	4 EtOH/SB	0.0012482700	0.30	0.7619	0.00411817
	4 High+Low+OrigBas	0.0000000000	.	.	.
	4 MTBE	-.0046018942	-1.24	0.2149	0.00370634
	5 ETBE	-.0048879975	-0.98	0.3275	0.00498775
	5 EtOH	-.0045860766	-0.78	0.4362	0.00588601
	5 EtOH/SB	-.0002558796	-0.05	0.9603	0.00513194
	5 High+Low+OrigBas	0.0000000000	.	.	.
	5 MTBE	-.0019760285	-0.39	0.6987	0.00510149
	9 ETBE	-.0065009675	-1.82	0.0689	0.00356738
	9 EtOH	-.0026351952	-0.76	0.4473	0.00346530
	9 EtOH/SB	-.0011481152	-0.35	0.7245	0.00325537
	9 High+Low+OrigBas	0.0000000000	.	.	.
	9 MTBE	-.0028935562	-0.68	0.4968	0.00425562
	12 ETBE	-.0006110233	-0.20	0.8428	0.00307992
	12 EtOH	0.0044273835	1.55	0.1229	0.00286523
	12 EtOH/SB	0.0075895300	2.87	0.0042	0.00264144
	12 High+Low+OrigBas	0.0000000000	.	.	.
	12 MTBE	0.0038880150	1.50	0.1354	0.00259995
CYCLE*TEMP	FTP 50	-.0195842041 B	-2.89	0.0040	0.00678224
	FTP 75	-.0021166520 B	-0.37	0.7095	0.00567882
	FTP 95	0.0000000000 B	.	.	.
	FTP1 50	-.0024826735 B	-0.37	0.7121	0.00672387

General Linear Models Procedure

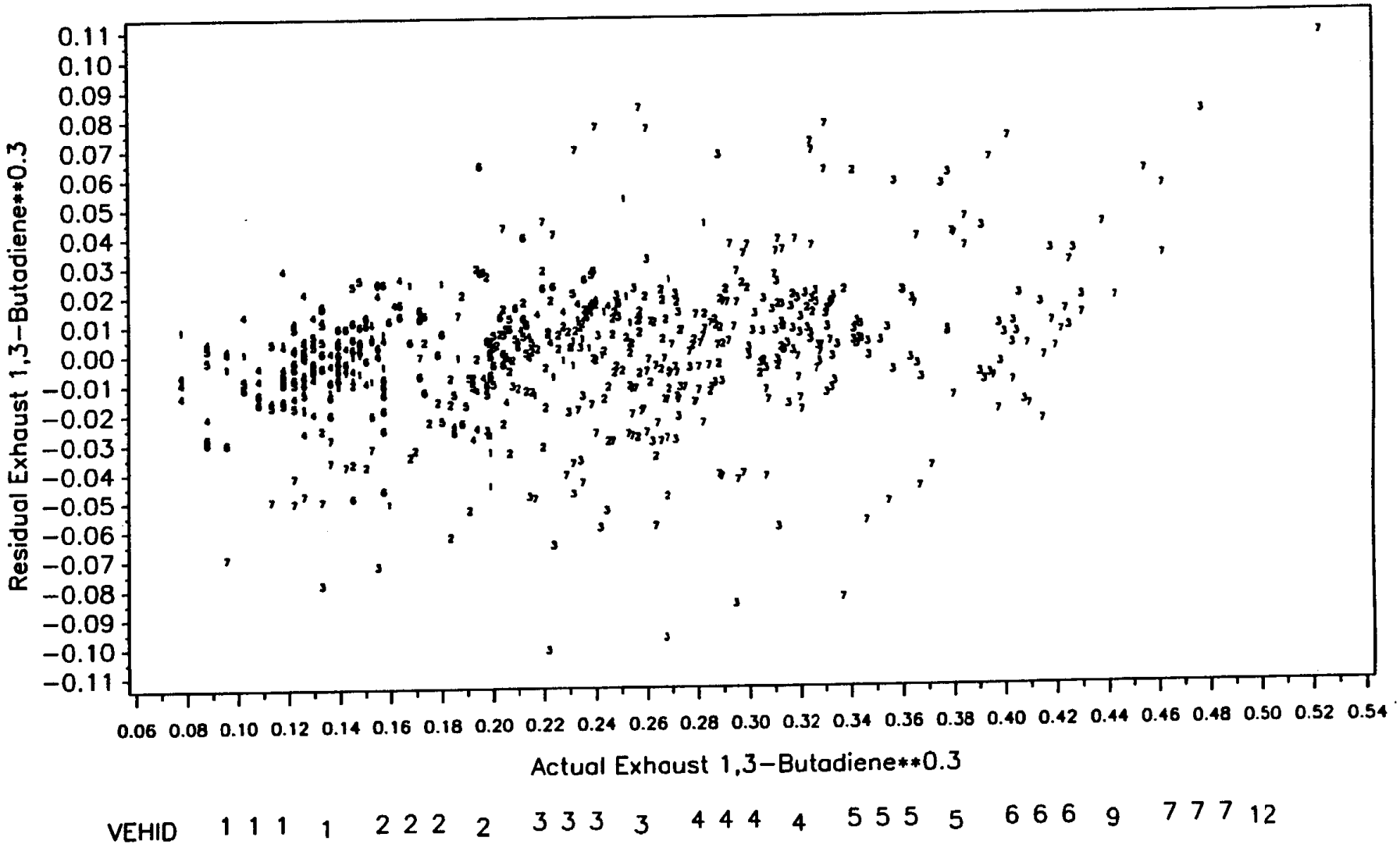
Dependent Variable: BUT3

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
CYCLE*TEMP	FTP1 75	-.0029522583 B	-0.52	0.6033	0.00567861
	FTP1 95	0.0000000000 B	.	.	
	FTP2 50	-.0214486090 B	-2.11	0.0354	0.01016899
	FTP2 75	-.0024835331 B	-0.29	0.7739	0.00864253
	FTP2 95	0.0000000000 B	.	.	.
	FTP3 50	-.0221856857 B	-2.66	0.0081	0.00835067
	FTP3 75	0.0016974166 B	0.25	0.7991	0.00666460
	FTP3 95	0.0000000000 B	.	.	.
	HFET 50	-.0095862613 B	-1.44	0.1501	0.00665176
	HFET 75	0.0000000000 B	.	.	.
	NYCC 50	-.0171991349 B	-1.99	0.0474	0.00865360
	NYCC 75	0.0053553083 B	0.74	0.4604	0.00724914
	NYCC 95	0.0000000000 B	.	.	.
SEASON	Summer	-.0074976726 B	-2.47	0.0136	0.00302994
	Winter	0.0000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Exhaust 1,3–Butadiene Emissions

Model: But**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season



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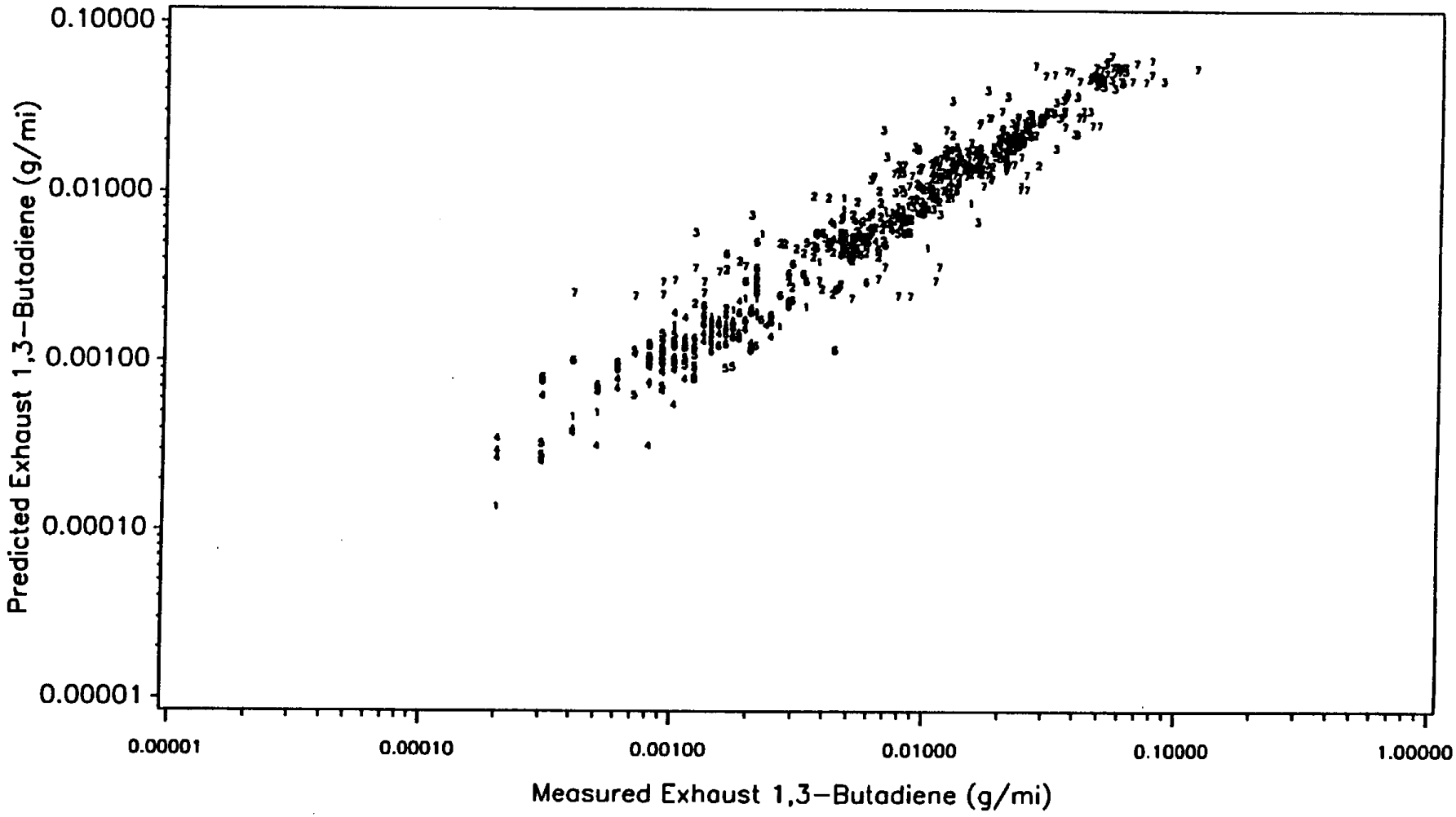
Total Exhaust 1,3–Butadiene Emissions

Model: But**0.3 = vehid*cycle vehid*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Total Exhaust 1,3-Butadiene Emissions 1
Model: But**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	7	1 2 3 4 5 9 12
CYCLE	6	FTP FTP1 FTP2 FTP3 HFET NYCC
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPBase MTBE NewStockBase xBase
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN
COBLEND	5	ETBE EtOH EtOH/SB High+Low+OrigBas MTBE

Number of observations in data set = 978

NOTE: Due to missing values, only 627 observations can be used in this analysis.

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Total Exhaust 1,3-Butadiene Emissions 2
Model: But**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season

General Linear Models Procedure

Dependent Variable: BUT3

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	67	39.28283857	0.58631102	865.45	0.0001
Error	560	0.37937838	0.00067746		
Uncorrected Total	627	39.66221695			

R-Square	C.V.	Root MSE	BUT3 Mean
0.920173	11.03070	0.0260281	0.2359605

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	39	39.20043176	1.00513928	1483.68	0.0001
OXY*EMSTECH*COBLEND	16	0.05805041	0.00362815	5.36	0.0001
CYCLE*TEMP	11	0.01976408	0.00179673	2.65	0.0026
SEASON	1	0.00459232	0.00459232	6.78	0.0095

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID*CYCLE	33	1.13461107	0.03438215	50.75	0.0001
OXY*EMSTECH*COBLEND	16	0.06221494	0.00388843	5.74	0.0001
CYCLE*TEMP	11	0.02434922	0.00221357	3.27	0.0002
SEASON	1	0.00459232	0.00459232	6.78	0.0095

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE 1 FTP	0.1612888021 B	19.98	0.0001	0.00807147
1 FTP1	0.2440538687 B	30.26	0.0001	0.00806627
1 FTP3	0.1142521655 B	7.20	0.0001	0.01587243
1 HFET	0.0833914625 B	4.48	0.0001	0.01860449
1 NYCC	0.2049977279 B	12.29	0.0001	0.01668295
2 FTP	0.2639109155 B	30.42	0.0001	0.00867543
2 FTP1	0.3194725383 B	36.84	0.0001	0.00867239
2 FTP2	0.2363348458 B	23.89	0.0001	0.00989374
2 FTP3	0.2628617101 B	29.08	0.0001	0.00903921

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General Linear Models Procedure

Dependent Variable: BUT3

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	2 HFET			
	0.2100393802 B	24.61	0.0001	0.00853428
	2 NYCC			
	0.2872249391 B	32.40	0.0001	0.00886564
	3 FTP			
	0.3426399019 B	39.15	0.0001	0.00875164
	3 FTP1			
	0.3736160378 B	42.70	0.0001	0.00874895
	3 FTP2			
	0.3416967733 B	33.78	0.0001	0.01011647
	3 FTP3			
	0.3239466490 B	35.37	0.0001	0.00915767
	3 HFET			
	0.2590770171 B	31.71	0.0001	0.00817027
	3 NYCC			
	0.4199031611 B	44.78	0.0001	0.00937783
	4 FTP			
	0.1574897274 B	19.58	0.0001	0.00804538
	4 FTP1			
	0.2268951695 B	28.35	0.0001	0.00800384
	4 FTP2			
	0.1378514288 B	6.65	0.0001	0.02071962
	4 FTP3			
	0.1304610398 B	14.47	0.0001	0.00901424
	4 HFET			
	0.1028869683 B	11.26	0.0001	0.00913423
	4 NYCC			
	0.1758502467 B	6.26	0.0001	0.02807155
	5 FTP			
	0.1429833786 B	17.55	0.0001	0.00814911
	5 FTP1			
	0.2153314343 B	26.44	0.0001	0.00814391
	5 FTP3			
	0.1262015353 B	6.25	0.0001	0.02018526
	5 HFET			
	0.0959094714 B	5.00	0.0001	0.01917578
	5 NYCC			
	0.2307960524 B	8.42	0.0001	0.02740959
	9 FTP			
	0.1527314222 B	19.02	0.0001	0.00803009
	9 FTP1			
	0.2136886556 B	26.64	0.0001	0.00802266
	9 FTP3			
	0.1580315011 B	18.15	0.0001	0.00870487
	9 HFET			
	0.1336285181 B	16.86	0.0001	0.00792563

General Linear Models Procedure

Dependent Variable: BUT3

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*CYCLE	9 NYCC			
	0.1806077738 B	19.76	0.0001	0.00913891
	12 FTP			
	0.2878458800 B	34.59	0.0001	0.00832046
	12 FTP1			
	0.3315422275 B	40.39	0.0001	0.00820853
	12 FTP2			
	0.2776647721 B	29.14	0.0001	0.00952853
	12 FTP3			
	0.2752880052 B	31.75	0.0001	0.00866948
	12 HFET			
	0.1726523639 B	22.78	0.0001	0.00757750
	12 NYCC			
	0.4129042870 B	47.25	0.0001	0.00873945
OXY*EMSTECH*COBLEND	3wayAdaptive ETBE			
	-.0054971059	-2.55	0.0111	0.00215667
	3wayAdaptive EtOH			
	-.0018298844	-0.85	0.3940	0.00214515
	3wayAdaptive EtOH/SB			
	-.0012521241	-0.60	0.5490	0.00208828
	3wayAdaptive High+Low+OrigBas			
	0.0000000000	.	.	.
	3wayAdaptive MTBE			
	-.0039570707	-1.86	0.0635	0.00212794
	3wayNonadapt ETBE			
	-.0168314125	-5.37	0.0001	0.00313268
	3wayNonadapt EtOH			
	-.0018944890	-0.62	0.5354	0.00305489
	3wayNonadapt EtOH/SB			
	-.0068290705	-2.26	0.0240	0.00301697
	3wayNonadapt High+Low+OrigBas			
	0.0000000000	.	.	.
	3wayNonadapt MTBE			
	-.0155537172	-5.06	0.0001	0.00307530
	Noncatalyst ETBE			
	-.0140989109	-4.68	0.0001	0.00301441
	Noncatalyst EtOH			
	-.0114262768	-3.65	0.0003	0.00313185
	Noncatalyst EtOH/SB			
	-.0082317340	-2.73	0.0065	0.00301441
	Noncatalyst High+Low+OrigBas			
	0.0000000000	.	.	.
	Noncatalyst MTBE			
	-.0095979651	-3.29	0.0011	0.00291923
	Oxycatalyst ETBE			
	-.0006223728	-0.20	0.8390	0.00306089

General Linear Models Procedure

Dependent Variable: BUT3

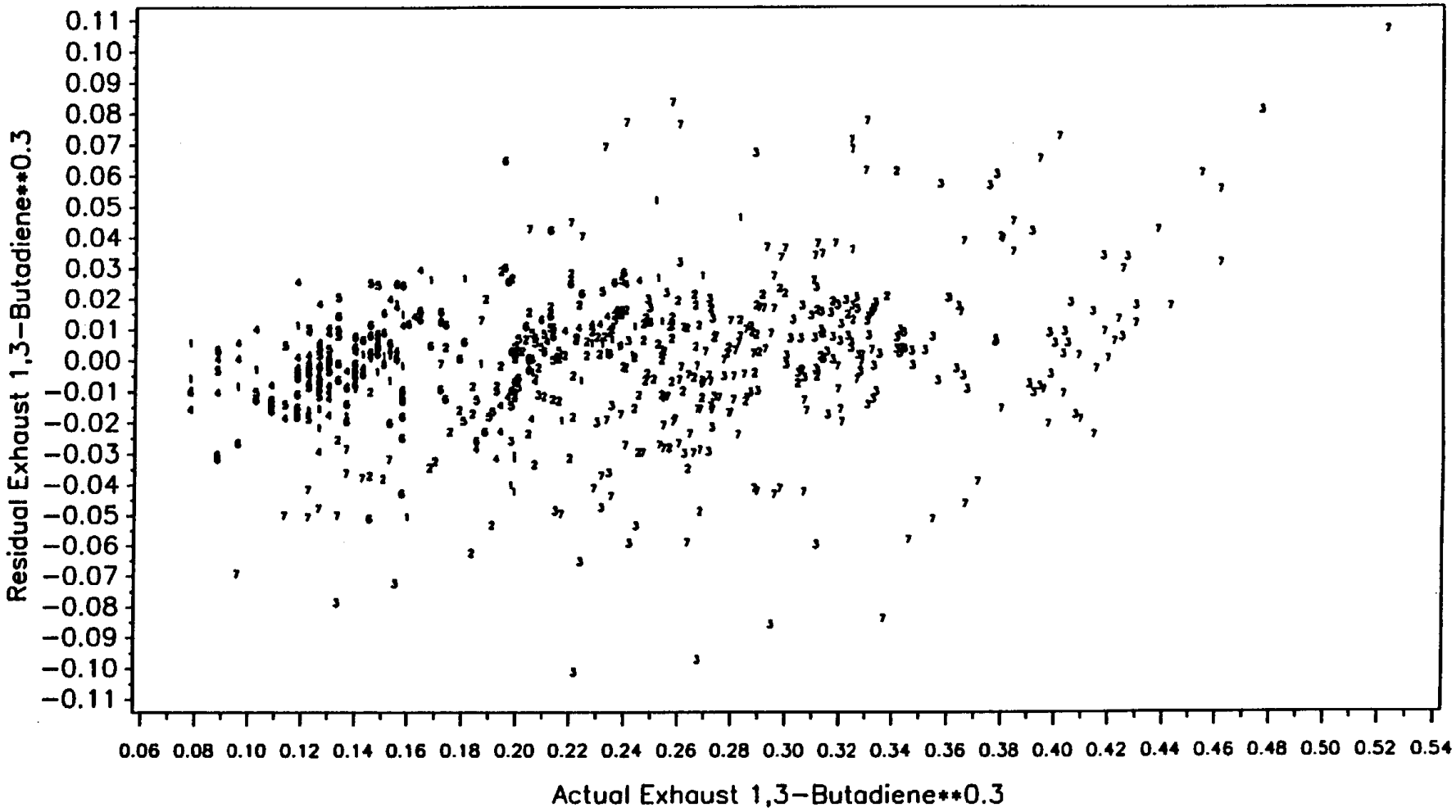
Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*EMSTECH*COBLEND	Oxycatalyst EtOH			
	0.0044139733	1.55	0.1217	0.00284746
	Oxycatalyst EtOH/SB			
	0.0075759102	2.89	0.0041	0.00262510
	Oxycatalyst High+Low+OrigBas			
	0.0000000000	.	.	.
	Oxycatalyst MTBE			
	0.0038740824	1.50	0.1343	0.00258386
CYCLE*TEMP	FTP 50			
	-.0197539290 B	-2.94	0.0034	0.00671052
	FTP 75			
	-.0021924724 B	-0.39	0.6977	0.00564151
	FTP 95			
	0.0000000000 B	.	.	.
	FTP1 50			
	-.0027615954 B	-0.41	0.6785	0.00665826
	FTP1 75			
	-.0030234615 B	-0.54	0.5922	0.00564137
	FTP1 95			
	0.0000000000 B	.	.	.
	FTP2 50			
	-.0217098701 B	-2.15	0.0320	0.01009788
	FTP2 75			
	-.0026146775 B	-0.30	0.7609	0.00858683
	FTP2 95			
	0.0000000000 B	.	.	.
	FTP3 50			
	-.0228207826 B	-2.76	0.0060	0.00827486
	FTP3 75			
	0.0011742752 B	0.18	0.8591	0.00661336
	FTP3 95			
	0.0000000000 B	.	.	.
	HFET 50			
	-.0094859387 B	-1.44	0.1502	0.00658326
	HFET 75			
	0.0000000000 B	.	.	.
	NYCC 50			
	-.0174776128 B	-2.03	0.0424	0.00859211
	NYCC 75			
	0.0051254951 B	0.71	0.4769	0.00720030
	NYCC 95			
	0.0000000000 B	.	.	.
SEASON	Summer			
	-.0077632344 B	-2.60	0.0095	0.00298173
	Winter			
	0.0000000000 B	.	.	.

General Linear Models Procedure

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

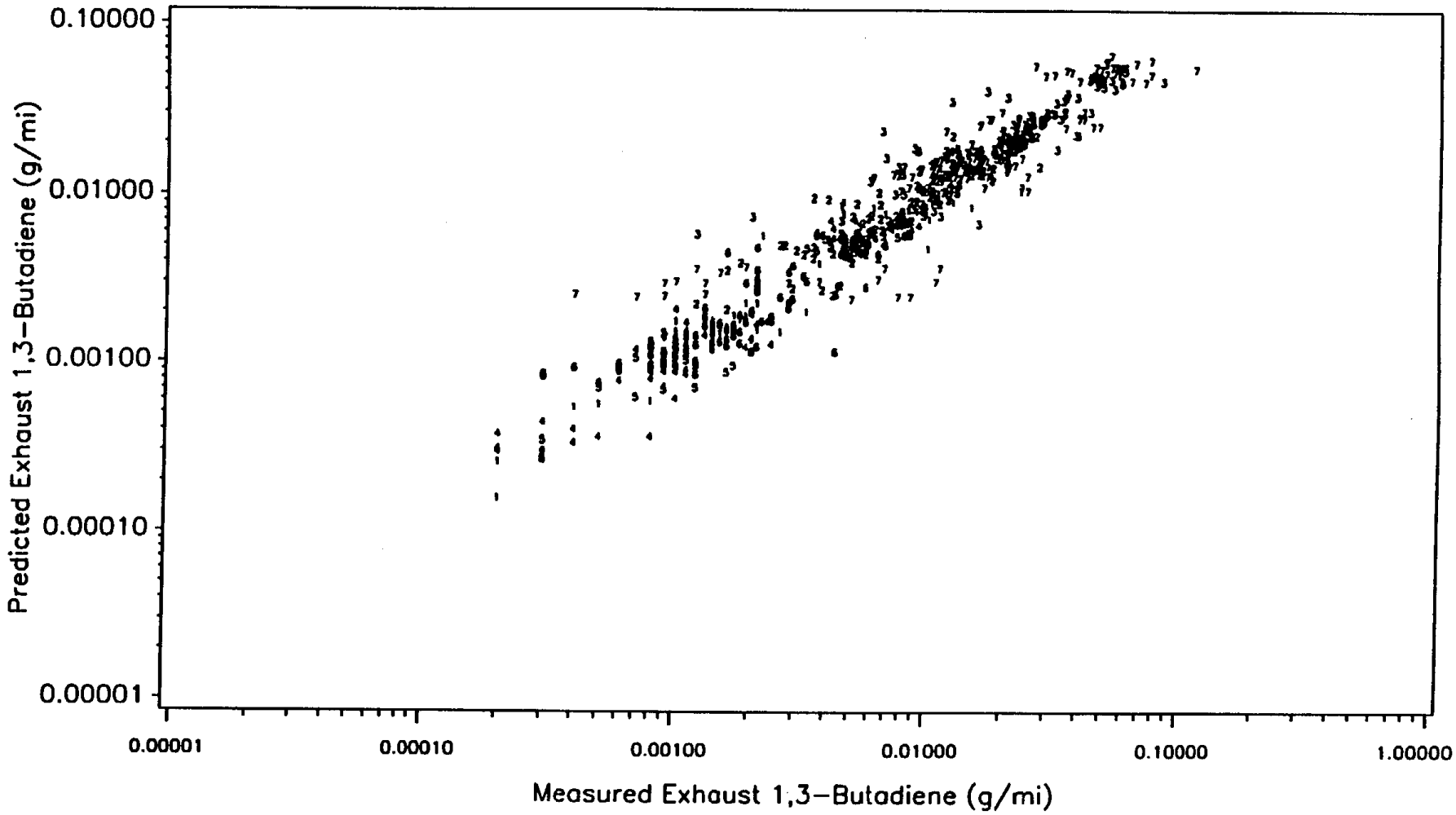
Total Exhaust 1,3–Butadiene Emissions

Model: But**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season



Total Exhaust 1,3–Butadiene Emissions

Model: But**0.3 = vehid*cycle emstech*coblend*oxy cycle*temp season



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 9 7 7 7 12

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Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPB MTBE NewStoc xBase
FUELID	12	M N O P Q R S T U V X Y
CARBFI	2	Carburetted FuelInjecte
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN

Number of observations in data set = 304

NOTE: Due to missing values, only 200 observations can be used in this analysis.

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Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	91	366.00424298	4.02202465	25.57	0.0001
Error	109	17.14302991	0.15727550		
Uncorrected Total	200	383.14727289			

R-Square	C.V.	Root MSE	LNDI Mean
0.953840	163.5099	0.3965798	0.2425417

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	13	291.66290401	22.43560800	142.65	0.0001
VEHID*TEMP	13	44.01215936	3.38555072	21.53	0.0001
VEHID*SEASON	13	14.37461913	1.10573993	7.03	0.0001
OXY*VEHID*BLENDTYP	52	15.95456049	0.30681847	1.95	0.0018

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	13	74.27120979	5.71316998	36.33	0.0001
VEHID*TEMP	13	54.45003625	4.18846433	26.63	0.0001
VEHID*SEASON	13	14.27144862	1.09780374	6.98	0.0001
OXY*VEHID*BLENDTYP	52	15.95456049	0.30681847	1.95	0.0018

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	-0.672697136 B	-1.71	0.0897	0.39287941
	2	1.811795562 B	4.61	0.0001	0.39287941
	3	4.207434264 B	10.56	0.0001	0.39850972
	4	1.939210532 B	5.65	0.0001	0.34339167
	5	-1.044979016 B	-2.66	0.0090	0.39287941
	6	1.625957508 B	4.14	0.0001	0.39287941
	7	1.632477744 B	4.18	0.0001	0.39049528
	8	-1.028987768 B	-2.62	0.0101	0.39287941
	9	0.417063446 B	1.07	0.2891	0.39149101
	10	4.046891594 B	10.30	0.0001	0.39287941
	11	1.923783073 B	4.91	0.0001	0.39149101
	12	3.433290462 B	8.74	0.0001	0.39287941
	13	1.034942403 B	2.63	0.0097	0.39287941
VEHID*TEMP	1 75	-0.564727793 B	-2.25	0.0264	0.25081906
	1 95	0.000000000 B	.	.	.

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Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*SEASON	11 Summer -0.976510127 B	-3.86	0.0002	0.25275875
	11 Winter 0.000000000 B	.	.	.
	12 Summer -0.574685840 B	-2.22	0.0284	0.25873225
	12 Winter 0.000000000 B	.	.	.
	13 Summer -0.660233347 B	-2.55	0.0121	0.25873225
	13 Winter 0.000000000 B	.	.	.
OXY*VEHID*BLENDTYP	1 ETBE 0.176733608	1.23	0.2205	0.14343059
	1 EtOH 0.012011336	0.08	0.9334	0.14343059
	1 EtOH/SB 0.067759272	0.47	0.6376	0.14343059
	1 MTBE 0.193921626	1.35	0.1792	0.14343059
	1 xBase 0.000000000	.	.	.
	2 ETBE -0.206181449	-1.44	0.1534	0.14343059
	2 EtOH -0.109922466	-0.77	0.4451	0.14343059
	2 EtOH/SB 0.024938974	0.17	0.8623	0.14343059
	2 MTBE -0.143367760	-1.00	0.3197	0.14343059
	2 xBase 0.000000000	.	.	.
	3 ETBE -0.456242317	-3.18	0.0019	0.14343059
	3 EtOH 0.079169000	0.50	0.6185	0.15851741
	3 EtOH/SB -0.093971087	-0.66	0.5137	0.14343059
	3 MTBE -0.193817449	-1.35	0.1794	0.14343059
	3 xBase 0.000000000	.	.	.
	4 ETBE -0.353392960	-2.59	0.0110	0.13659073

Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*BLENDTYP	4 EtOH -0.332152786	-2.43	0.0167	0.13659073
	4 EtOH/SB -0.176199204	-1.29	0.1998	0.13659073
	4 MTBE -0.107502849	-0.89	0.3775	0.12131967
	4 xBase 0.000000000	.	.	.
	5 ETBE -0.041671303	-0.29	0.7720	0.14343059
	5 EtOH -0.038323614	-0.27	0.7898	0.14343059
	5 EtOH/SB 0.189834667	1.32	0.1884	0.14343059
	5 MTBE -0.096208431	-0.67	0.5038	0.14343059
	5 xBase 0.000000000	.	.	.
	6 ETBE -0.137362322	-0.96	0.3403	0.14343059
	6 EtOH -0.362057424	-2.52	0.0130	0.14343059
	6 EtOH/SB 0.236490134	1.65	0.1021	0.14343059
	6 MTBE 0.031226976	0.22	0.8281	0.14343059
	6 xBase 0.000000000	.	.	.
	7 ETBE -0.024791938	-0.17	0.8631	0.14343059
	7 EtOH 0.021832473	0.15	0.8793	0.14343059
	7 EtOH/SB 0.149358551	1.09	0.2767	0.13661220
	7 MTBE -0.033535428	-0.23	0.8156	0.14343059
	7 xBase 0.000000000	.	.	.
	8 ETBE -0.024736203	-0.17	0.8634	0.14343059
	8 EtOH -0.081229870	-0.57	0.5723	0.14343059
	8 EtOH/SB -0.077437594	-0.54	0.5904	0.14343059

Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*BLENDTYP 8 MTBE	-0.144864845	-1.01	0.3147	0.14343059
8 xBase	0.000000000	.	.	.
9 ETBE	-0.040697941	-0.28	0.7771	0.14343059
9 EtOH	0.048669838	0.34	0.7350	0.14343059
9 EtOH/SB	0.194312777	1.47	0.1444	0.13217856
9 MTBE	0.036103888	0.25	0.8017	0.14343059
9 xBase	0.000000000	.	.	.
10 ETBE	-0.298616783	-2.08	0.0397	0.14343059
10 EtOH	-0.126902174	-0.88	0.3782	0.14343059
10 EtOH/SB	0.074701125	0.52	0.6036	0.14343059
10 MTBE	0.048602573	0.34	0.7354	0.14343059
10 xBase	0.000000000	.	.	.
11 ETBE	-0.105182247	-0.73	0.4649	0.14343059
11 EtOH	0.136667983	0.95	0.3428	0.14343059
11 EtOH/SB	0.095096973	0.72	0.4734	0.13217856
11 MTBE	0.057904734	0.40	0.6872	0.14343059
11 xBase	0.000000000	.	.	.
12 ETBE	-0.060027189	-0.42	0.6764	0.14343059
12 EtOH	-0.001161667	-0.01	0.9936	0.14343059
12 EtOH/SB	0.044402205	0.31	0.7575	0.14343059
12 MTBE	0.017255517	0.12	0.9045	0.14343059
12 xBase	0.000000000	.	.	.

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Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
OXY*VEHID*BLENDTYP 13 ETBE	-0.200976895	-1.40	0.1640	0.14343059
13 EtOH	-0.566826625	-3.95	0.0001	0.14343059
13 EtOH/SB	-0.203064568	-1.42	0.1597	0.14343059
13 MTBE	-0.567361822	-3.96	0.0001	0.14343059
13 xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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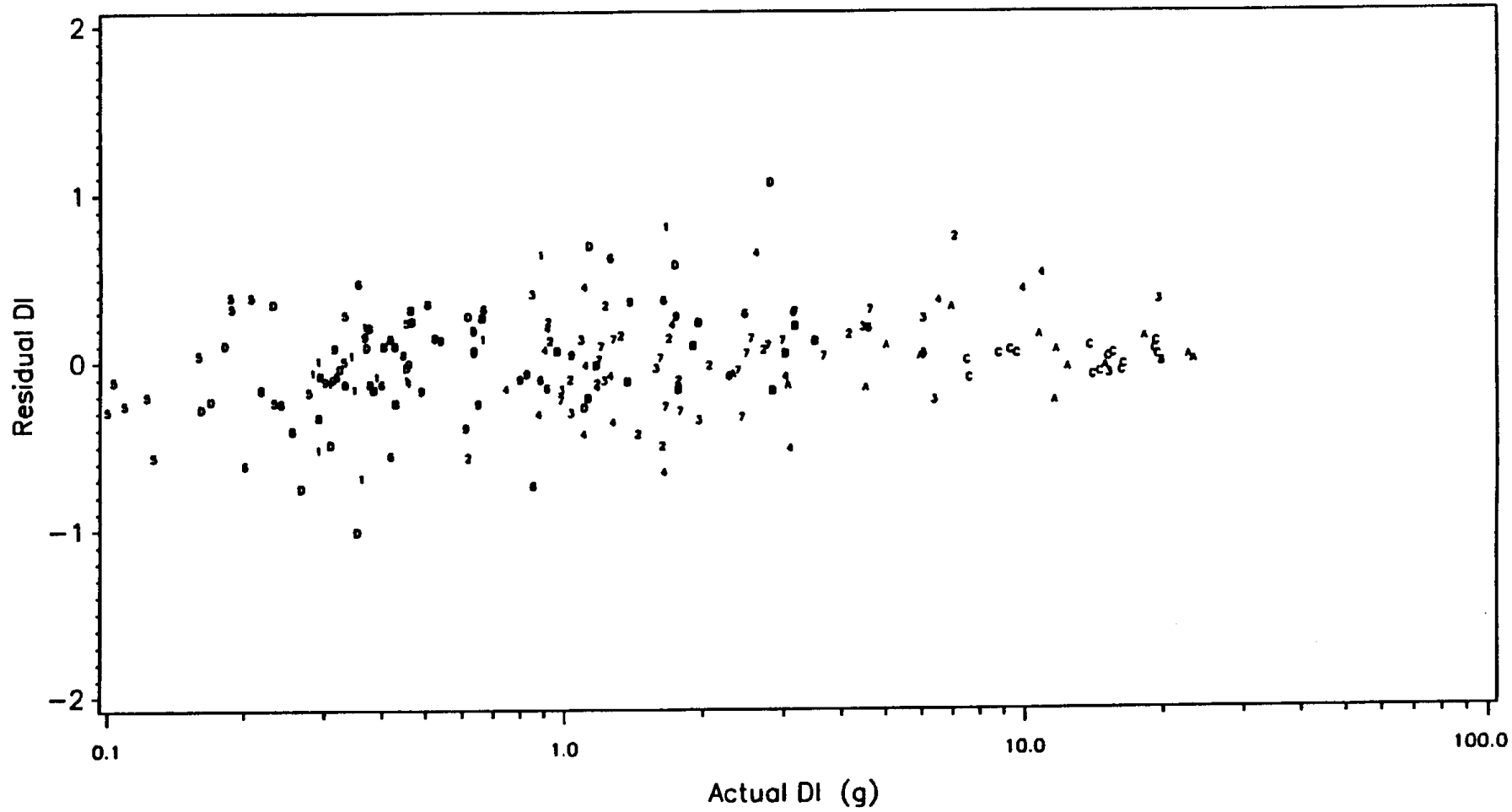
Total Evaporative Diurnal Emissions

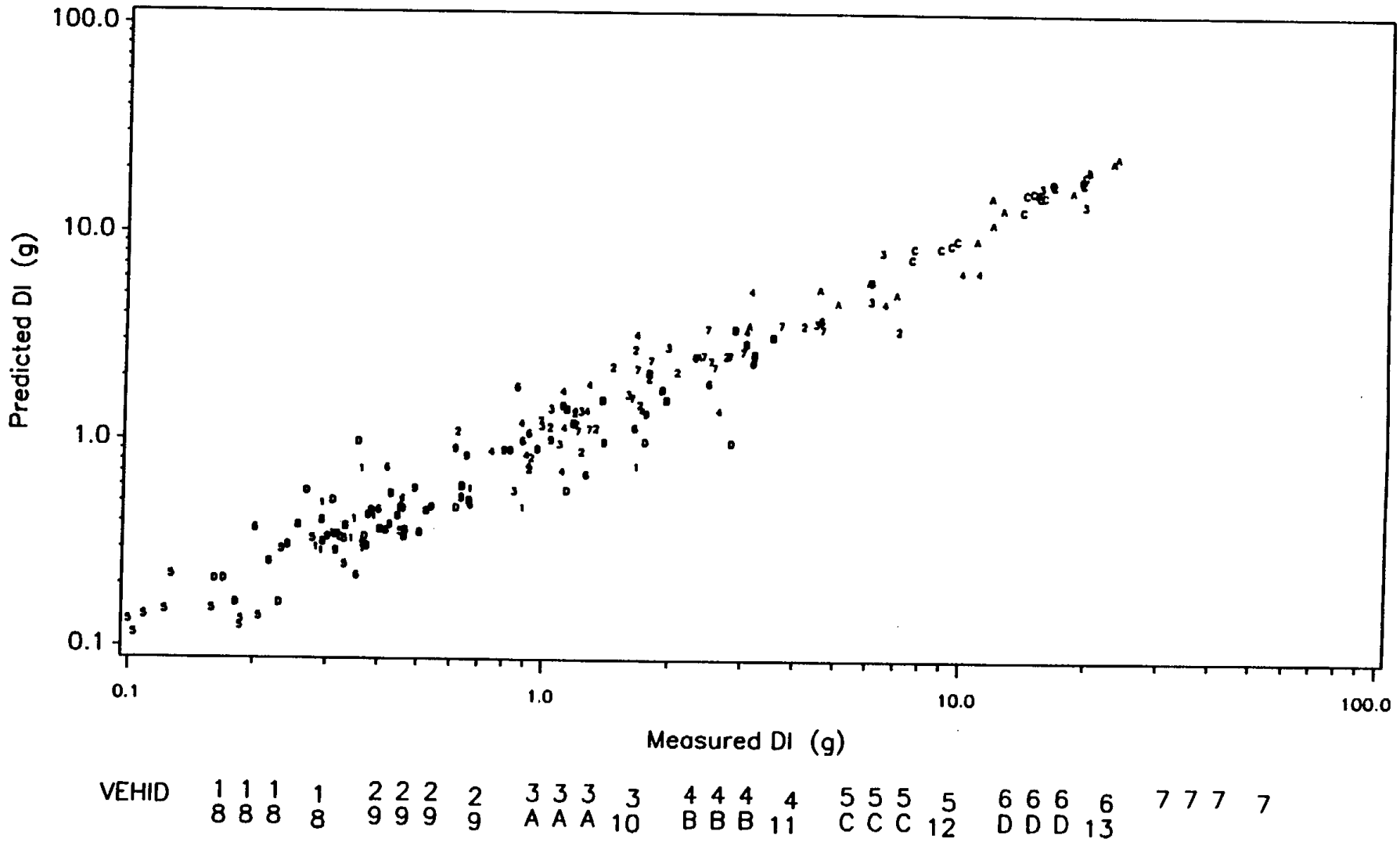
Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

Total Evaporative Diurnal Emissions

Model: lnDI = vehid vehid*temp vehid*season vehid*blendtyp*oxy



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Model: lnDI = vehid carbfi*temp carbfi*season carbfi*blendtyp*oxy

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	13	1 2 3 4 5 6 7 8 9 10 11 12 13
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPB MTBE NewStoc xBase
FUELID	12	M N O P Q R S T U V X Y
CARBFI	2	Carburetted FuelInjecte
FUELSYS	3	Carburetted Multipoint ThrottleBody
EMSTECH	4	3wayAdaptive 3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN

Number of observations in data set = 304

NOTE: Due to missing values, only 200 observations can be used in this analysis.

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Model: lnDI = vehid carbfi*temp carbfi*season carbfi*blendtyp*oxy

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	25	344.19413165	13.76776527	61.85	0.0001
Error	175	38.95314125	0.22258938		
Uncorrected Total	200	383.14727289			

R-Square	C.V.	Root MSE	LNDI Mean
0.895113	194.5207	0.4717938	0.2425417

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	13	291.66290401	22.43560800	100.79	0.0001
TEMP*CARBFI	2	34.51624237	17.25812118	77.53	0.0001
SEASON*CARBFI	2	11.39892105	5.69946053	25.61	0.0001
OXY*BLENDTYP*CARBFI	8	6.61606422	0.82700803	3.72	0.0005

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	11	121.90423387	11.08220308	49.79	0.0001
TEMP*CARBFI	2	43.60149608	21.80074804	97.94	0.0001
SEASON*CARBFI	2	11.60852490	5.80426245	26.08	0.0001
OXY*BLENDTYP*CARBFI	8	6.61606422	0.82700803	3.72	0.0005

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	0.114218227 B	0.55	0.5811	0.20661558
	2	2.045845749 B	9.26	0.0001	0.22084917
	3	2.827165946 B	12.61	0.0001	0.22417875
	4	1.580286807 B	7.92	0.0001	0.19965584
	5	-0.630856607 B	-3.05	0.0026	0.20661558
	6	0.881535471 B	4.27	0.0001	0.20661558
	7	2.262810798 B	10.37	0.0001	0.21821508
	8	-0.052579186 B	-0.25	0.7994	0.20661558
	9	0.459263934 B	2.25	0.0257	0.20414923
	10	3.805235763 B	17.23	0.0001	0.22084917
	11	1.765867309 B	8.08	0.0001	0.21855930
	12	4.146218216 B	18.77	0.0001	0.22084917
	13	0.170490660 B	0.83	0.4104	0.20661558
TEMP*CARBFI	75 Carburetted	-1.366727858 B	-11.20	0.0001	0.12204075
	75 FuelInjecte	-0.933939969 B	-8.39	0.0001	0.11125693

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Model: lnDI = vehid carbfi*temp carbfi*season carbfi*blendtyp*oxy

General Linear Models Procedure

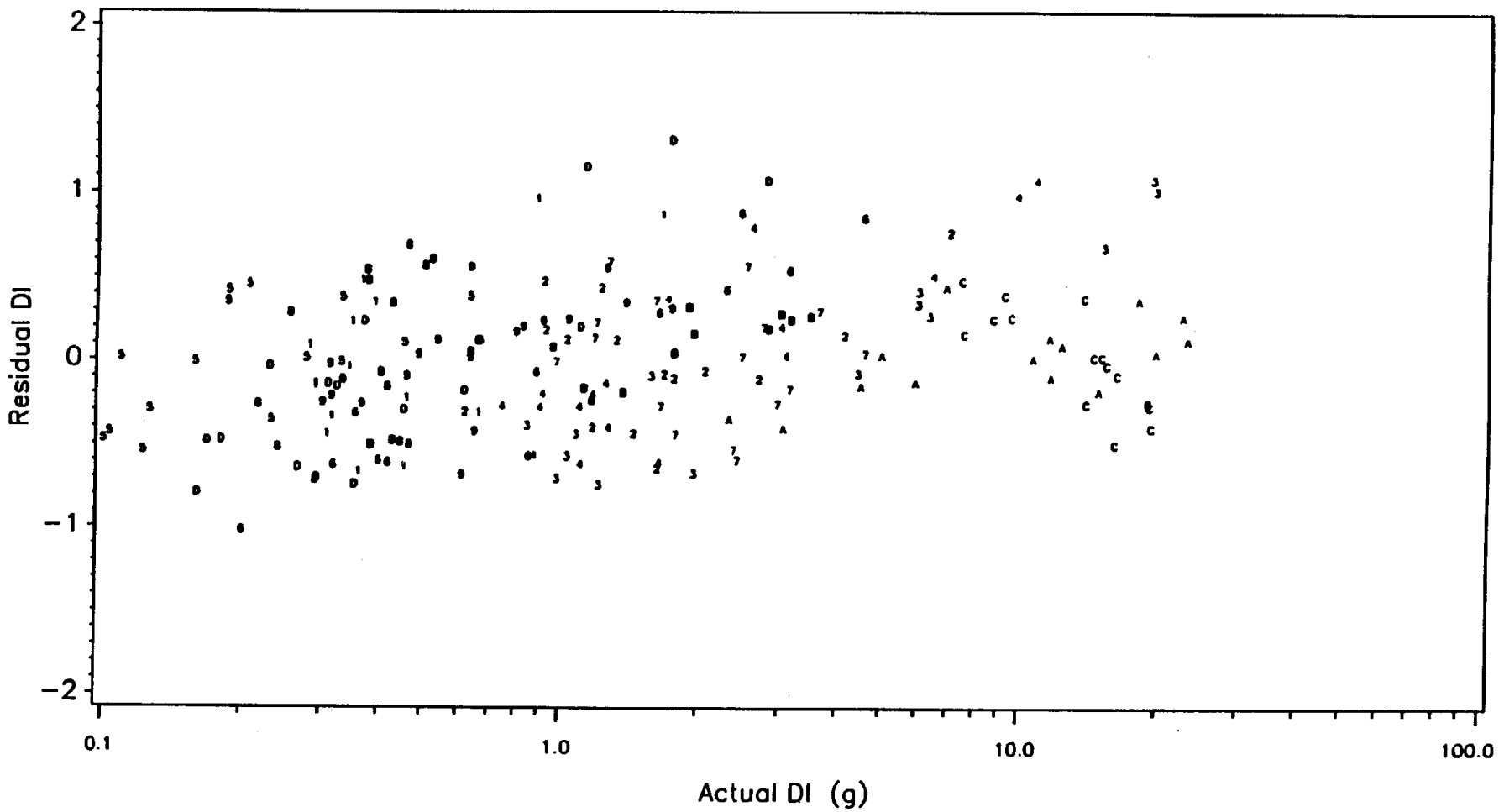
Dependent Variable: LNDI

Parameter	Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
TEMP*CARBFI	95 Carburetted			
	0.000000000 B	.	.	.
	95 FuelInjecte			
	0.000000000 B	.	.	.
SEASON*CARBFI	Summer Carburetted			
	-0.852937347 B	-6.82	0.0001	0.12499580
	Summer FuelInjecte			
	-0.270048159 B	-2.36	0.0192	0.11422914
	Winter Carburetted			
	0.000000000 B	.	.	.
	Winter FuelInjecte			
	0.000000000 B	.	.	.
OXY*BLENDTYP*CARBFI	ETBE Carburetted			
	-0.191840321	-2.75	0.0065	0.06966070
	ETBE FuelInjecte			
	-0.099258089	-1.55	0.1224	0.06394884
	EtOH Carburetted			
	-0.027091902	-0.38	0.7013	0.07052134
	EtOH FuelInjecte			
	-0.198944535	-3.11	0.0022	0.06394884
	EtOH/SB Carburetted			
	0.041138678	0.61	0.5449	0.06781508
	EtOH/SB FuelInjecte			
	0.029690097	0.47	0.6380	0.06299438
	MTBE Carburetted			
	-0.041159635	-0.59	0.5554	0.06966070
	MTBE FuelInjecte			
	-0.102532143	-1.64	0.1023	0.06242461
	xBase Carburetted			
	0.000000000	.	.	.
	xBase FuelInjecte			
	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Evaporative Diurnal Emissions

Model: lnDI = vehid carbfi*temp carbfi*season carbfi*blendtyp*oxy



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7 7
8 8 8 8 9 9 9 9 A A A 10 B B B 11 C C C 12 D D D 13

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Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	2 3 12
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V
FUELSYS	1	Carburetted
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CANISTER	2	CLOSED OPEN

Number of observations in by group = 43

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Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	13	222.21718267	17.09362944	102.62	0.0001
Error	30	4.99712128	0.16657071		
Uncorrected Total	43	227.21430395			

R-Square	C.V.	Root MSE	LNDI Mean
0.896984	20.01998	0.4081308	2.0386169

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	209.38333988	69.79444663	419.01	0.0001
VEHID*SEASON	3	0.34344585	0.11448195	0.69	0.5669
VEHID*TEMP	3	10.06498224	3.35499408	20.14	0.0001
OXY*BLENDTYP	4	2.42541470	0.60635367	3.64	0.0156

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	81.85379295	27.28459765	163.80	0.0001
VEHID*SEASON	3	4.20841639	1.40280546	8.42	0.0003
VEHID*TEMP	3	9.86288336	3.28762779	19.74	0.0001
OXY*BLENDTYP	4	2.42541470	0.60635367	3.64	0.0156

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	2.256269385 B	6.47	0.0001	0.34850789
	3	4.306446413 B	11.51	0.0001	0.37424618
	12	4.279910823 B	12.28	0.0001	0.34850789
VEHID*SEASON	2 Summer	-0.492383140 B	-1.89	0.0688	0.26091080
	2 Winter	0.000000000 B	.	.	.
	3 Summer	-1.050673472 B	-4.03	0.0004	0.26091080
	3 Winter	0.000000000 B	.	.	.
	12 Summer	-0.660255516 B	-2.53	0.0169	0.26091080
	12 Winter	0.000000000 B	.	.	.
VEHID*TEMP	2 75	-0.814229844 B	-3.15	0.0036	0.25812455
	2 95	0.000000000 B	.	.	.
	3 75	-1.964559111 B	-6.51	0.0001	0.30159486
	3 95	0.000000000 B	.	.	.
	12 75	-0.674599578 B	-2.61	0.0139	0.25812455
	12 95	0.000000000 B	.	.	.

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Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	16	48.42468443	3.02654278	20.07	0.0001
Error	40	6.03060430	0.15076511		
Uncorrected Total	56	54.45528873			

R-Square	C.V.	Root MSE	LNDI Mean
0.852105	78.56282	0.3882848	0.4942349

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	4	40.43824618	10.10956155	67.06	0.0001
VEHID*SEASON	4	1.29983562	0.32495891	2.16	0.0917
VEHID*TEMP	4	5.56146996	1.39036749	9.22	0.0001
OXY*BLENDTYP	4	1.12513267	0.28128317	1.87	0.1354

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	4	33.29068673	8.32267168	55.20	0.0001
VEHID*SEASON	4	0.38545218	0.09636305	0.64	0.6376
VEHID*TEMP	4	5.33284898	1.33321225	8.84	0.0001
OXY*BLENDTYP	4	1.12513267	0.28128317	1.87	0.1354

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	1.133567353 B	3.38	0.0016	0.33538749
	4	2.264608227 B	7.24	0.0001	0.31258310
	5	-0.467726190 B	-1.18	0.2447	0.39611797
	9	0.706741018 B	2.15	0.0373	0.32807623
VEHID*SEASON	1 Summer	-0.404465921 B	-1.54	0.1327	0.26349428
	1 Winter	0.000000000 B	.	.	.
	4 Summer	-0.069039973 B	-0.28	0.7819	0.24774959
	4 Winter	0.000000000 B	.	.	.
	5 Summer	0.039058279 B	0.13	0.9002	0.30948881
	5 Winter	0.000000000 B	.	.	.
	9 Summer	-0.077947352 B	-0.31	0.7576	0.25087628
	9 Winter	0.000000000 B	.	.	.
VEHID*TEMP	1 75	-0.589332489 B	-2.38	0.0220	0.24734597
	1 95	0.000000000 B	.	.	.
	4 75	-1.178688630 B	-5.00	0.0001	0.23563539

Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

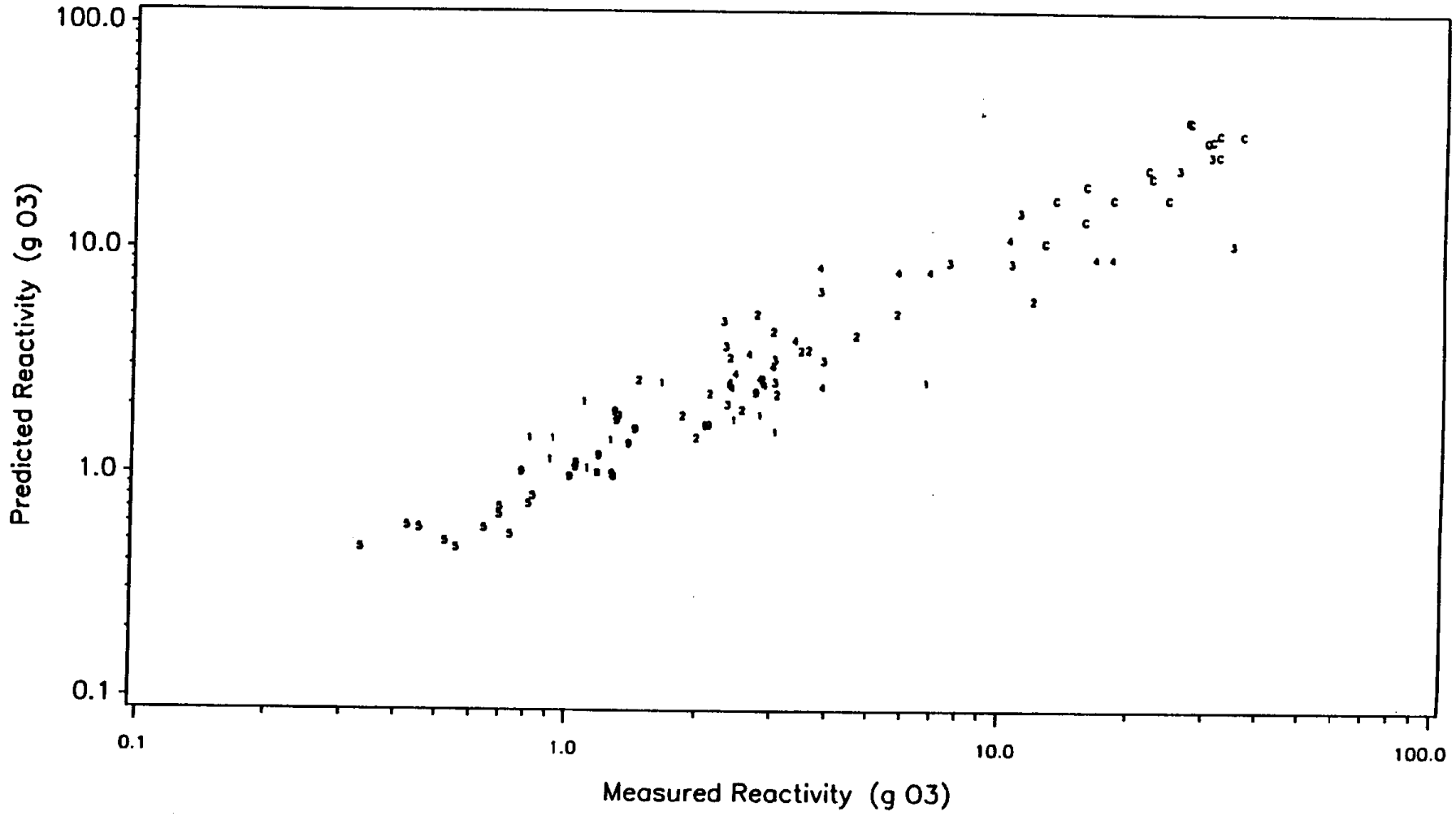
Dependent Variable: LNDI

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID*TEMP	4 95	0.000000000 B	.	.	.
	5 75	-0.116391421 B	-0.39	0.7015	0.30151539
	5 95	0.000000000 B	.	.	.
	9 75	-0.523026309 B	-2.13	0.0394	0.24557289
	9 95	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.044947354	-0.60	0.5534	0.07520745
	EtOH	-0.069861304	-0.95	0.3486	0.07365148
	EtOH/SB	0.098637463	1.37	0.1783	0.07199499
	MTBE	-0.068778378	-0.89	0.3764	0.07689197
	xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Estimated Ozone Production for Diurnal Emissions

Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 9 9 9 9 C C C 12

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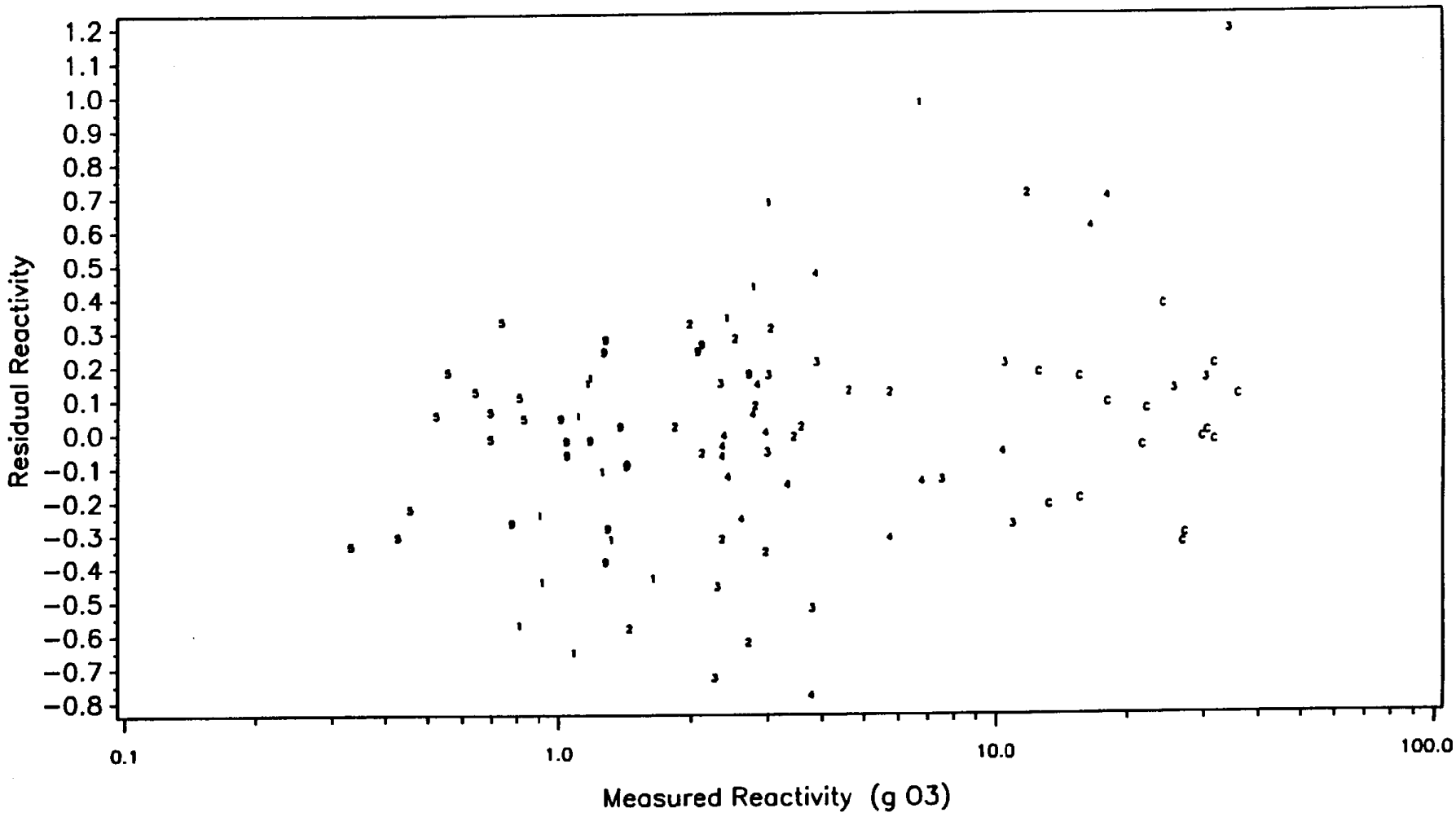
Estimated Ozone Production for Diurnal Emissions

Model: lnDIEOP = vehid vehid*season vehid*temp blendtyp*oxy (by carbfi)



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 9 9 9 9 C C C 12

Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	2 3 12
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V
FUELSYS	1	Carburetted
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CANISTER	2	CLOSED OPEN

Number of observations in by group = 43

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Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	220.10264431	24.45584937	116.92	0.0001
Error	34	7.11165964	0.20916646		
Uncorrected Total	43	227.21430395			

R-Square	C.V.	Root MSE	LNDI Mean
0.853392	22.43419	0.4573472	2.0386169

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	209.38333988	69.79444663	333.68	0.0001
SEASON	1	0.22465882	0.22465882	1.07	0.3073
TEMP	1	8.01858503	8.01858503	38.34	0.0001
OXY*BLENDTYP	4	2.47606057	0.61901514	2.96	0.0336

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	2	30.40690924	15.20345462	72.69	0.0001
SEASON	1	3.87550293	3.87550293	18.53	0.0001
TEMP	1	7.87635459	7.87635459	37.66	0.0001
OXY*BLENDTYP	4	2.47606057	0.61901514	2.96	0.0336

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	2.617066848 B	9.37	0.0001	0.27924055
	3	3.447869934 B	12.03	0.0001	0.28660960
	12	4.621880213 B	16.55	0.0001	0.27924055
SEASON	Summer	-0.741789364 B	-4.30	0.0001	0.17233068
	Winter	0.000000000 B	.	.	.
TEMP	75	-1.070835302 B	-6.14	0.0001	0.17450428
	95	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.294564570	-3.08	0.0040	0.09549852
	EtOH	-0.098837317	-1.01	0.3205	0.09804004
	EtOH/SB	-0.069042894	-0.72	0.4746	0.09549852
	MTBE	-0.207368027	-2.12	0.0418	0.09804004
	xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	4	1 4 5 9
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V
FUELSYS	2	Multipoint ThrottleBody
EMSTECH	1	3wayAdaptive
CANISTER	2	CLOSED OPEN

Number of observations in by group = 56

Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

Dependent Variable: LNDI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	46.42947970	4.64294797	26.61	0.0001
Error	46	8.02580903	0.17447411		
Uncorrected Total	56	54.45528873			

R-Square	C.V.	Root MSE	LNDI Mean
0.803175	84.51467	0.4177010	0.4942349

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	4	40.43824618	10.10956155	57.94	0.0001
SEASON	1	0.65527079	0.65527079	3.76	0.0588
TEMP	1	4.20208787	4.20208787	24.08	0.0001
OXY*BLENDTYP	4	1.13387486	0.28346871	1.62	0.1841

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	26.77835986	8.92611995	51.16	0.0001
SEASON	1	0.17970321	0.17970321	1.03	0.3155
TEMP	1	4.12204716	4.12204716	23.63	0.0001
OXY*BLENDTYP	4	1.13387486	0.28346871	1.62	0.1841

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	1.022621910 B	4.27	0.0001	0.23966346
	4	2.018460087 B	8.77	0.0001	0.23004996
	5	0.025230896 B	0.10	0.9180	0.24371336
	9	0.870467265 B	3.68	0.0006	0.23669870
SEASON	Summer	-0.148225518 B	-1.01	0.3155	0.14605302
	Winter	0.000000000 B	.	.	.
TEMP	75	-0.664861934 B	-4.86	0.0001	0.13678563
	95	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.037401166	-0.47	0.6434	0.08026391
	EtOH	-0.087117699	-1.11	0.2714	0.07825752
	EtOH/SB	0.077858490	1.03	0.3104	0.07590964
	MTBE	-0.087372140	-1.08	0.2861	0.08096073
	xBase	0.000000000	.	.	.

Estimated Ozone Production for Diurnal Emissions
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)

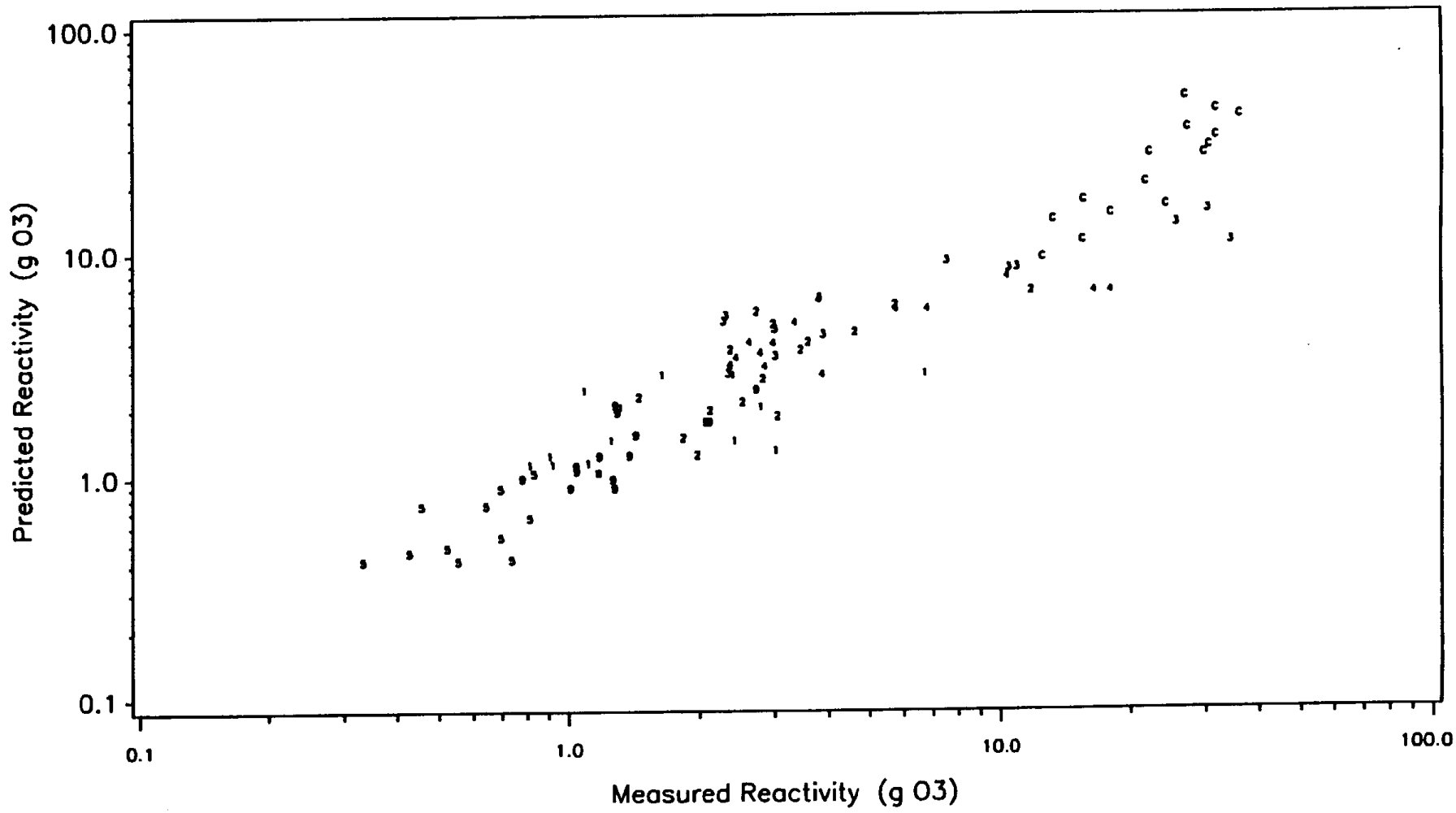
---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Estimated Ozone Production for Diurnal Emissions

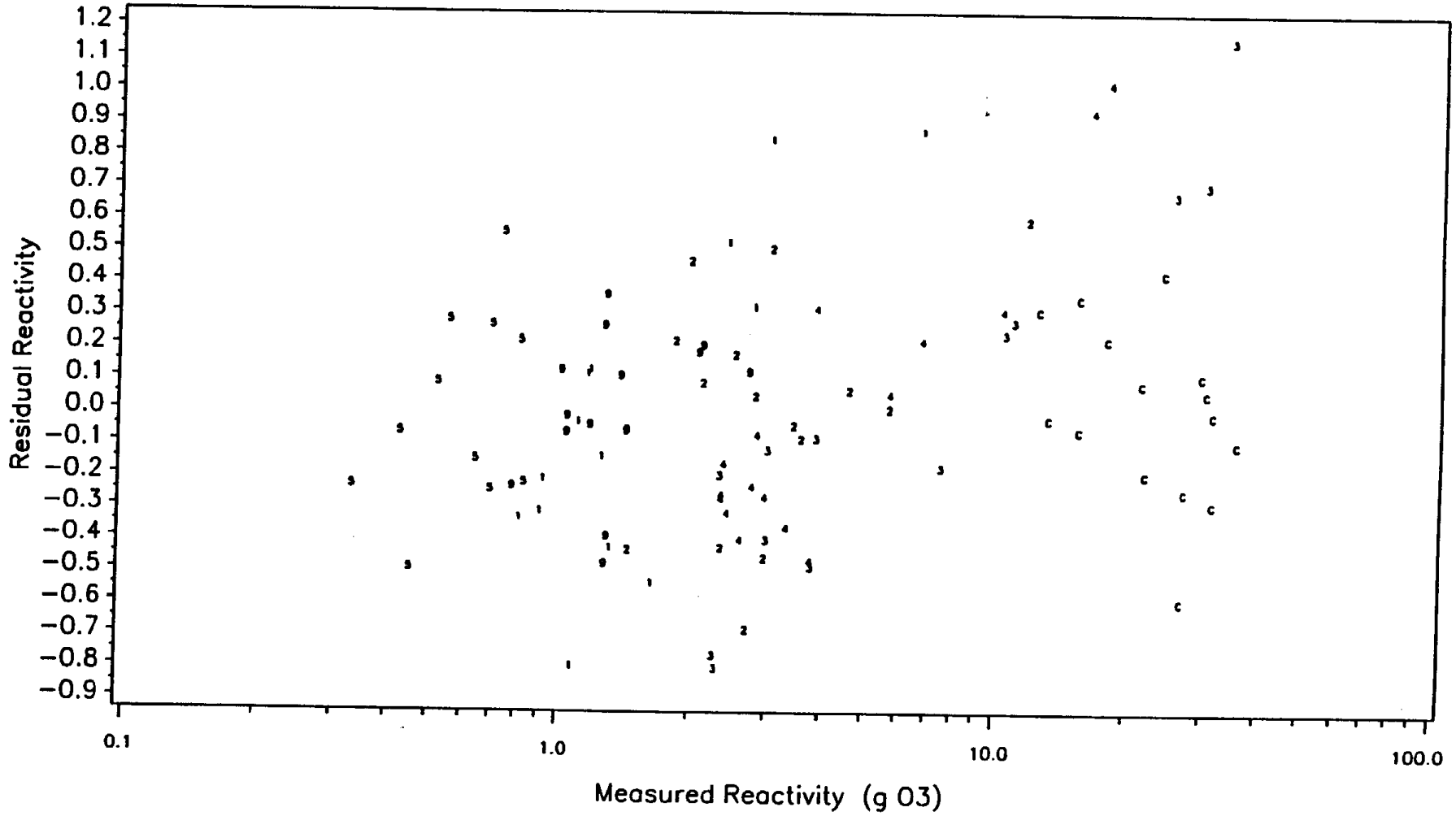
Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 9 9 9 9 C C C 12

Estimated Ozone Production for Diurnal Emissions

Model: lnDIEOP = vehid season temp blendtyp*oxy (by carbfi)



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 9 9 9 9 C C C 12

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Evaporative Toxic Emissions for Diurnal Benzene
Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)

---------- CARBFI=carb ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	carb
VEHID	3	2 3 12
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V

Number of observations in by group = 42

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Evaporative Toxic Emissions for Diurnal Benzene
Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)

---------- CARBFI=carb ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	582.01108239	64.66789804	1235.36	0.0001
Error	33	1.72746798	0.05234751		
Uncorrected Total	42	583.73855037			

R-Square	C.V.	Root MSE	LNBZ Mean
0.945062	-6.309389	0.2287958	-3.6262747

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	579.34404214	193.11468071	3689.09	0.0001
SEASON	1	0.04584793	0.04584793	0.88	0.3561
OXY*BLENDTYP	4	0.69028108	0.17257027	3.30	0.0223
TEMP	1	1.93091122	1.93091122	36.89	0.0001

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	2	26.96668126	13.48334063	257.57	0.0001
SEASON	1	0.18017029	0.18017029	3.44	0.0725
OXY*BLENDTYP	4	0.76906822	0.19226706	3.67	0.0140
TEMP	1	1.93091122	1.93091122	36.89	0.0001

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	-4.085898347 B	-27.82	0.0001	0.14686614
	3	-3.197725994 B	-20.37	0.0001	0.15694744
	12	-2.190747499 B	-14.92	0.0001	0.14686614
SEASON	Summer	-0.167080219 B	-1.86	0.0725	0.09005990
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.103858378	-2.07	0.0465	0.05020861
	EtOH	0.064894987	1.26	0.2149	0.05132189
	EtOH/SB	0.044817107	0.89	0.3785	0.05020861
	MTBE	0.015807554	0.31	0.7600	0.05132189
	xBase	0.000000000	.	.	.
TEMP	75	-0.530237133 B	-6.07	0.0001	0.08730458
	95	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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Evaporative Toxic Emissions for Diurnal Benzene
Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)

---------- CARBFI=fi ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	fi
VEHID	4	1 4 5 9
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V

Number of observations in by group = 56

Evaporative Toxic Emissions for Diurnal Benzene
Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)

---------- CARBFI=fi ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	1286.3837030	128.6383703	1250.45	0.0001
Error	46	4.7321910	0.1028737		
Uncorrected Total	56	1291.1158941			

R-Square	C.V.	Root MSE	LNBZ Mean
0.879584	-6.783843	0.3207393	-4.7279888

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	4	1285.6072319	321.4018080	3124.24	0.0001
SEASON	1	0.3996199	0.3996199	3.88	0.0548
OXY*BLENDTYP	4	0.1997597	0.0499399	0.49	0.7463
TEMP	1	0.1770915	0.1770915	1.72	0.1960

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	33.64050600	11.21350200	109.00	0.0001
SEASON	1	0.15050363	0.15050363	1.46	0.2326
OXY*BLENDTYP	4	0.21154950	0.05288738	0.51	0.7257
TEMP	1	0.17709151	0.17709151	1.72	0.1960

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	-4.706162548 B	-25.57	0.0001	0.18402996
	4	-3.727877569 B	-21.10	0.0001	0.17664806
	5	-5.862116068 B	-31.32	0.0001	0.18713976
	9	-5.254916847 B	-28.91	0.0001	0.18175342
SEASON	Summer	0.135649607 B	1.21	0.2326	0.11214948
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	0.047125866	0.76	0.4484	0.06163211
	EtOH	0.019576216	0.33	0.7461	0.06009147
	EtOH/SB	0.073121035	1.25	0.2160	0.05828861
	MTBE	0.009616393	0.15	0.8777	0.06216718
	xBase	0.000000000	.	.	.
TEMP	75	-0.137807819 B	-1.31	0.1960	0.10503335
	95	0.000000000 B	.	.	.

Evaporative Toxic Emissions for Diurnal Benzene
Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)

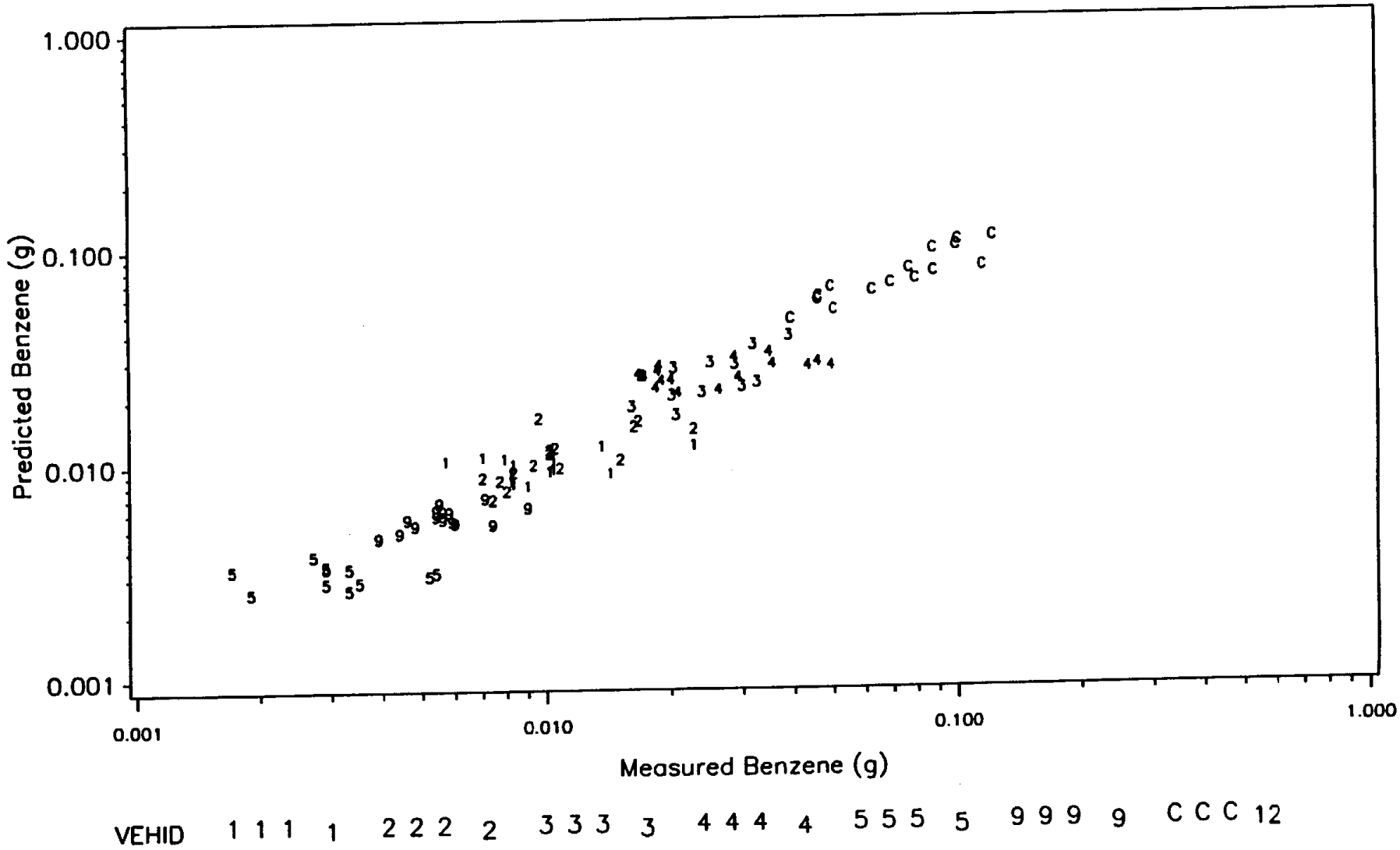
---------- CARBFI=fi ----------

General Linear Models Procedure

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Evaporative Toxic Emissions for Diurnal Benzene

Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)



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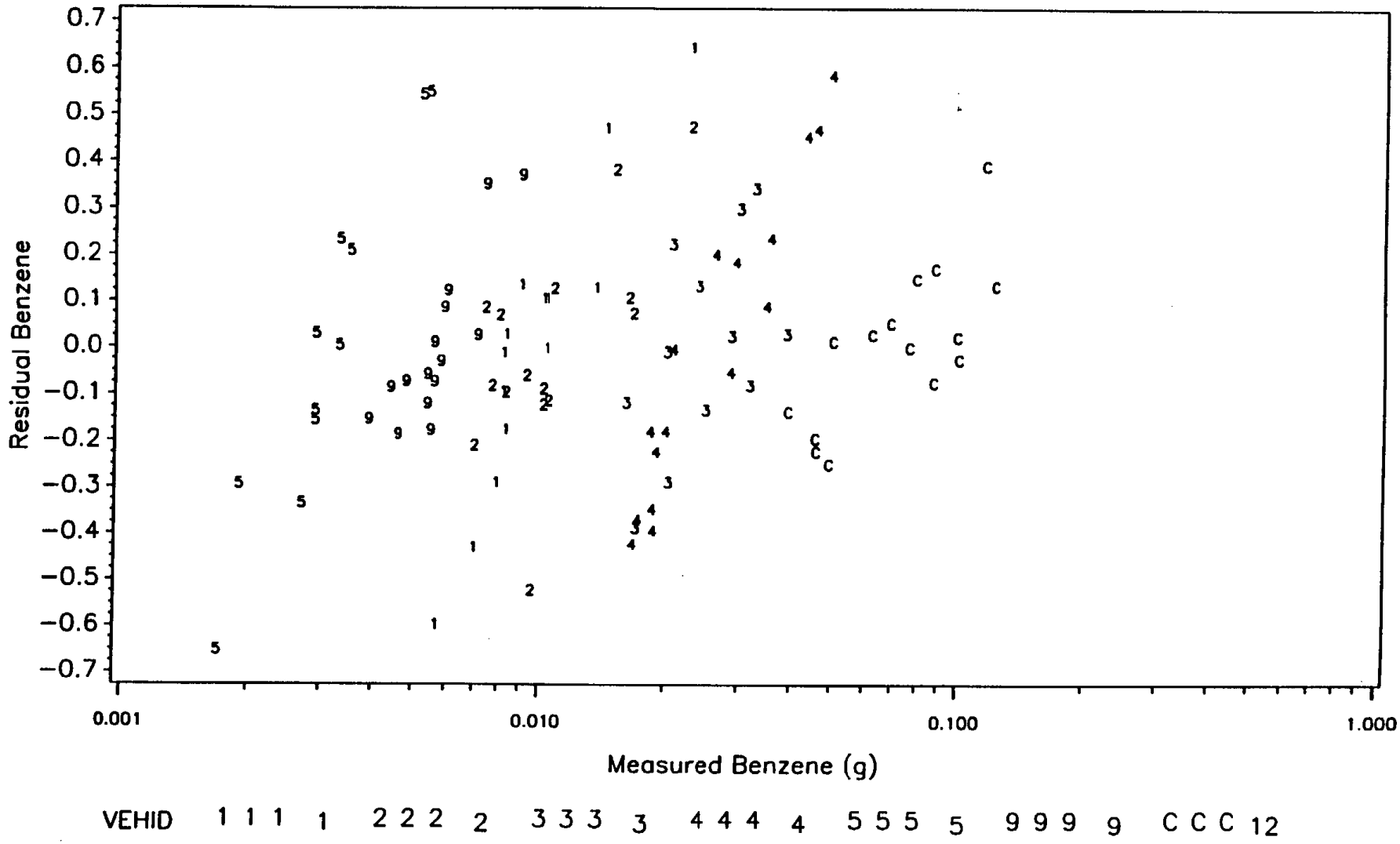
Evaporative Toxic Emissions for Diurnal Benzene

Model: lnDIBZ = vehid season blendtyp*oxy temp (by carbfi)



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Total Evaporative Hot-Soak Emissions 1
Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	5	2 3 10 11 12
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPB MTBE NewStoc xBase
FUELID	12	M N O P Q R S T U V X Y
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN

Number of observations in by group = 119

NOTE: Due to missing values, only 76 observations can be used in this analysis.

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Total Evaporative Hot-Soak Emissions 2
Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure

Dependent Variable: LNHS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	288.25627502	26.20511591	429.95	0.0001
Error	65	3.96173921	0.06094983		
Uncorrected Total	76	292.21801423			

R-Square	C.V.	Root MSE	LNHS Mean
0.964534	16.01907	0.2468802	1.5411644

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	5	285.89677415	57.17935483	938.14	0.0001
TEMP	1	0.01671579	0.01671579	0.27	0.6023
SEASON	1	1.32749773	1.32749773	21.78	0.0001
OXY*BLENDTYP	4	1.01528735	0.25382184	4.16	0.0046

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	4	105.60483248	26.40120812	433.16	0.0001
TEMP	1	0.48022212	0.48022212	7.88	0.0066
SEASON	1	1.07625447	1.07625447	17.66	0.0001
OXY*BLENDTYP	4	1.01528735	0.25382184	4.16	0.0046

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	0.024254076 B	0.20	0.8405	0.12000492
	3	2.678153239 B	22.56	0.0001	0.11872178
	10	3.272050514 B	27.27	0.0001	0.12000492
	11	0.859887151 B	7.17	0.0001	0.12000492
	12	1.980615882 B	16.50	0.0001	0.12000492
TEMP	75	-0.196702300 B	-2.81	0.0066	0.07007686
	95	0.000000000 B	.	.	.
SEASON	Summer	-0.293889615 B	-4.20	0.0001	0.06993797
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.027149467	-0.69	0.4900	0.03910908
	EtOH	0.090912613	2.29	0.0255	0.03977170
	EtOH/SB	0.107760519	2.76	0.0076	0.03910908
	MTBE	0.044639673	1.16	0.2516	0.03859161
	xBase	0.000000000	.	.	.

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Total Evaporative Hot-Soak Emissions
Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

Dependent Variable: LNHS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	99.06933715	9.00630338	150.97	0.0001
Error	66	3.93737511	0.05965720		
Uncorrected Total	77	103.00671226			

R-Square	C.V.	Root MSE	LNHS Mean
0.931811	-31.85634	0.2442482	-0.7667177

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	5	95.77135733	19.15427147	321.07	0.0001
TEMP	1	2.81882619	2.81882619	47.25	0.0001
SEASON	1	0.11741390	0.11741390	1.97	0.1653
OXY*BLENDTYP	4	0.36173973	0.09043493	1.52	0.2077

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	4	50.63203859	12.65800965	212.18	0.0001
TEMP	1	1.63988540	1.63988540	27.49	0.0001
SEASON	1	0.13368590	0.13368590	2.24	0.1392
OXY*BLENDTYP	4	0.36173973	0.09043493	1.52	0.2077

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	4	0.756271135 B	6.52	0.0001	0.11605475
	5	-1.574287028 B	-13.18	0.0001	0.11943989
	6	-1.030168174 B	-8.51	0.0001	0.12109766
	8	-0.822465546 B	-6.89	0.0001	0.11943989
	13	-0.755794156 B	-6.33	0.0001	0.11943989
TEMP	75	-0.359440066 B	-5.24	0.0001	0.06855690
	95	0.000000000 B	.	.	.
SEASON	Summer	0.104658199 B	1.50	0.1392	0.06991364
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	0.045781577	1.17	0.2452	0.03904671
	EtOH	0.042108119	1.08	0.2848	0.03904671
	EtOH/SB	0.024546939	0.62	0.5381	0.03966449
	MTBE	-0.034131099	-0.90	0.3697	0.03778723
	xBase	0.000000000	.	.	.

Total Evaporative Hot-Soak Emissions
Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)

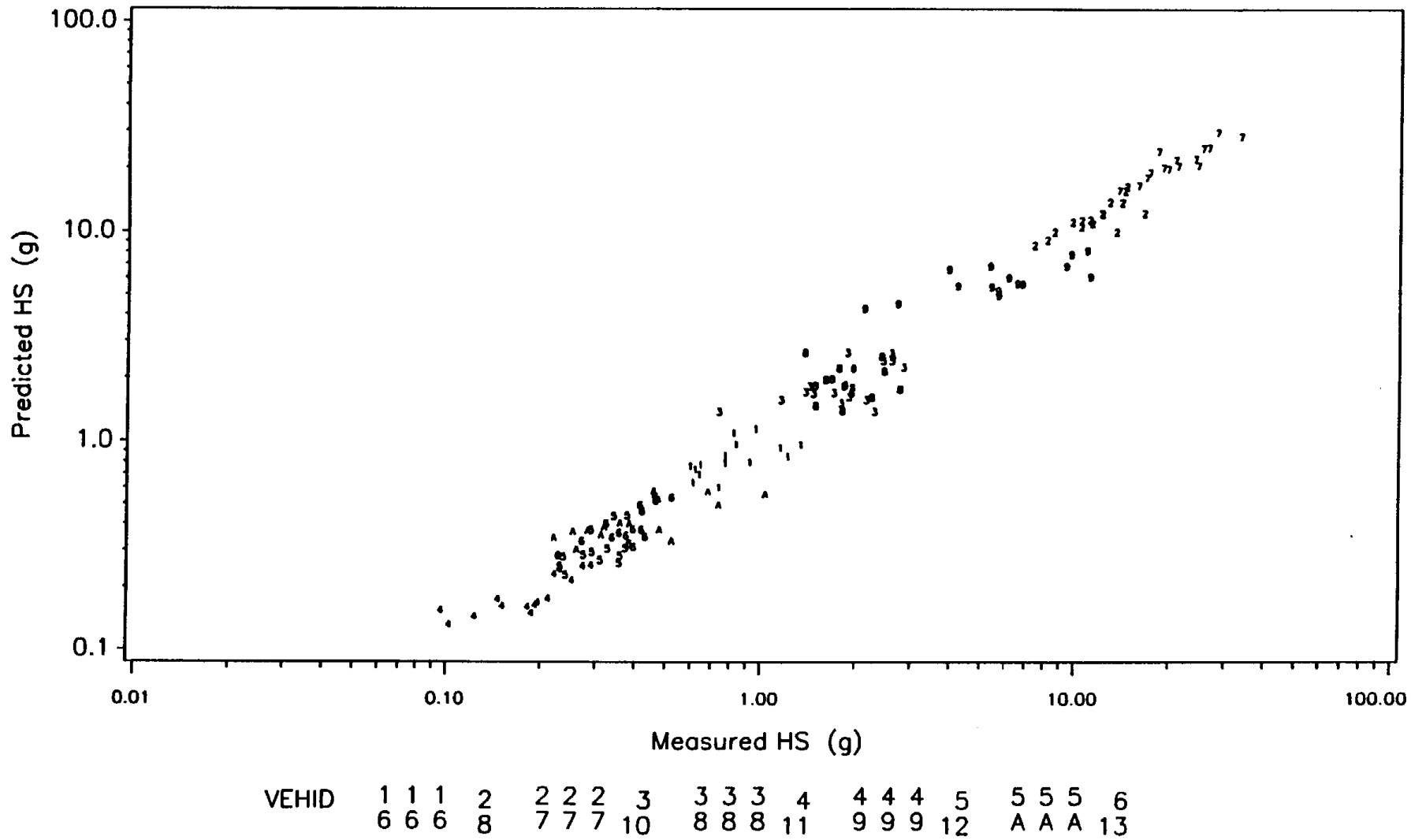
---------- CARBFI=FuelInjecte ----------

General Linear Models Procedure

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Total Evaporative Hot–Soak Emissions

Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)



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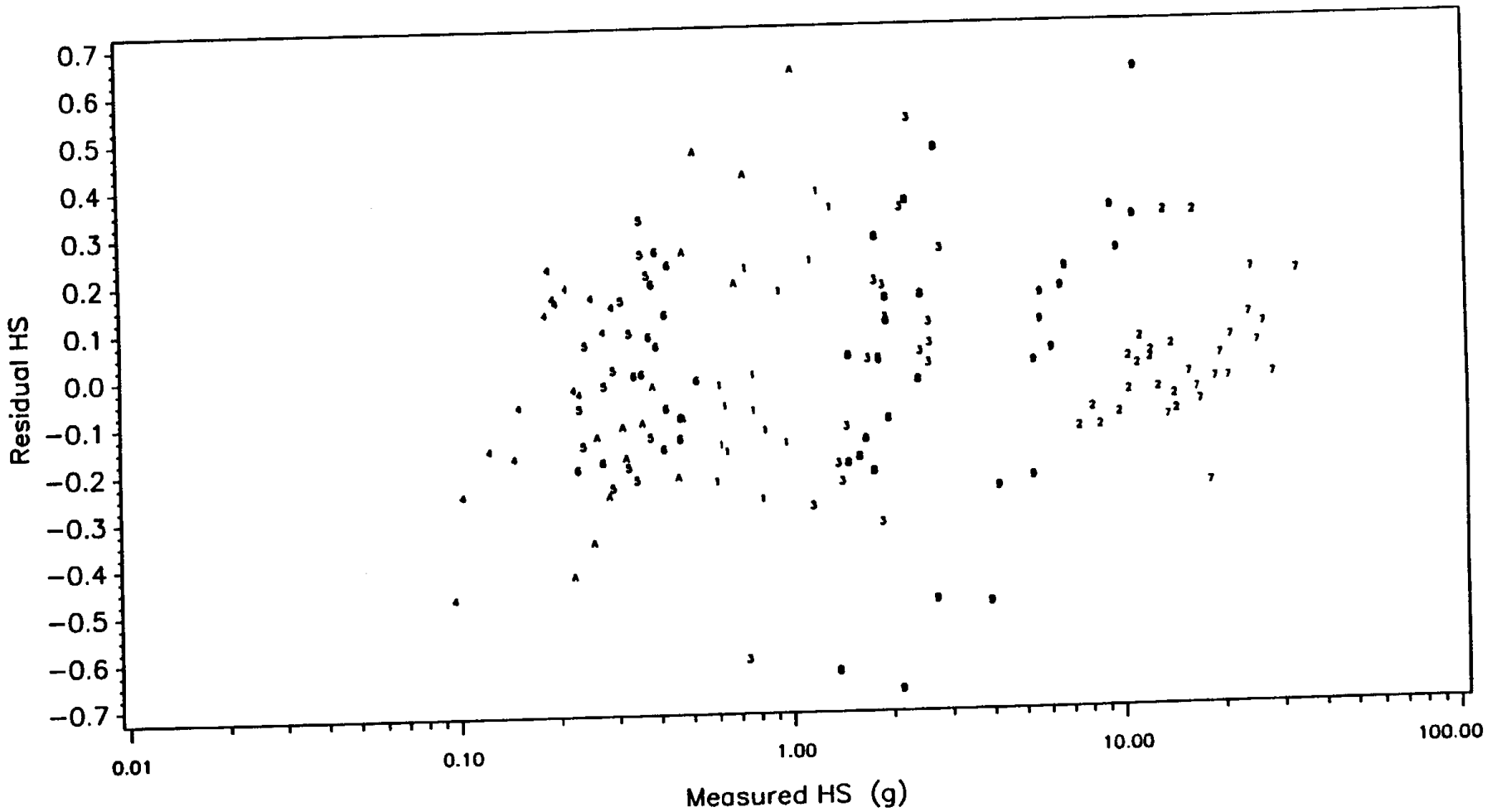
Total Evaporative Hot–Soak Emissions

Model: lnHS = vehid temp season blendtyp*oxy (by carbfi)



VEHID 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6
6 6 6 8 7 7 7 10 8 8 8 11 9 9 9 12 A A A 13

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	1 7 9
SEASON	2	Summer Winter
TEMP	3	50 75 95
BLENDTYP	7	ETBE EtOH EtOH/SB LowRVPB MTBE NewStoc xBase
FUELID	12	M N O P Q R S T U V X Y
EMSTECH	2	3wayAdaptive 3wayNonadapt
CNSTR	2	CLOSED OPEN

Number of observations in data set = 74

NOTE: Due to missing values, only 48 observations can be used in this analysis.

General Linear Models Procedure

Dependent Variable: LNHS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	69.82501764	7.75833529	4.66	0.0003
Error	39	64.99177727	1.66645583		
Uncorrected Total	48	134.81679491			

R-Square	C.V.	Root MSE	LNHS Mean
0.331088	145.7467	1.2909128	0.8857235

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	50.07552828	16.69184276	10.02	0.0001
TEMP	1	3.78091399	3.78091399	2.27	0.1401
SEASON	1	8.32114799	8.32114799	4.99	0.0312
OXY*BLENDTYP	4	7.64742739	1.91185685	1.15	0.3488

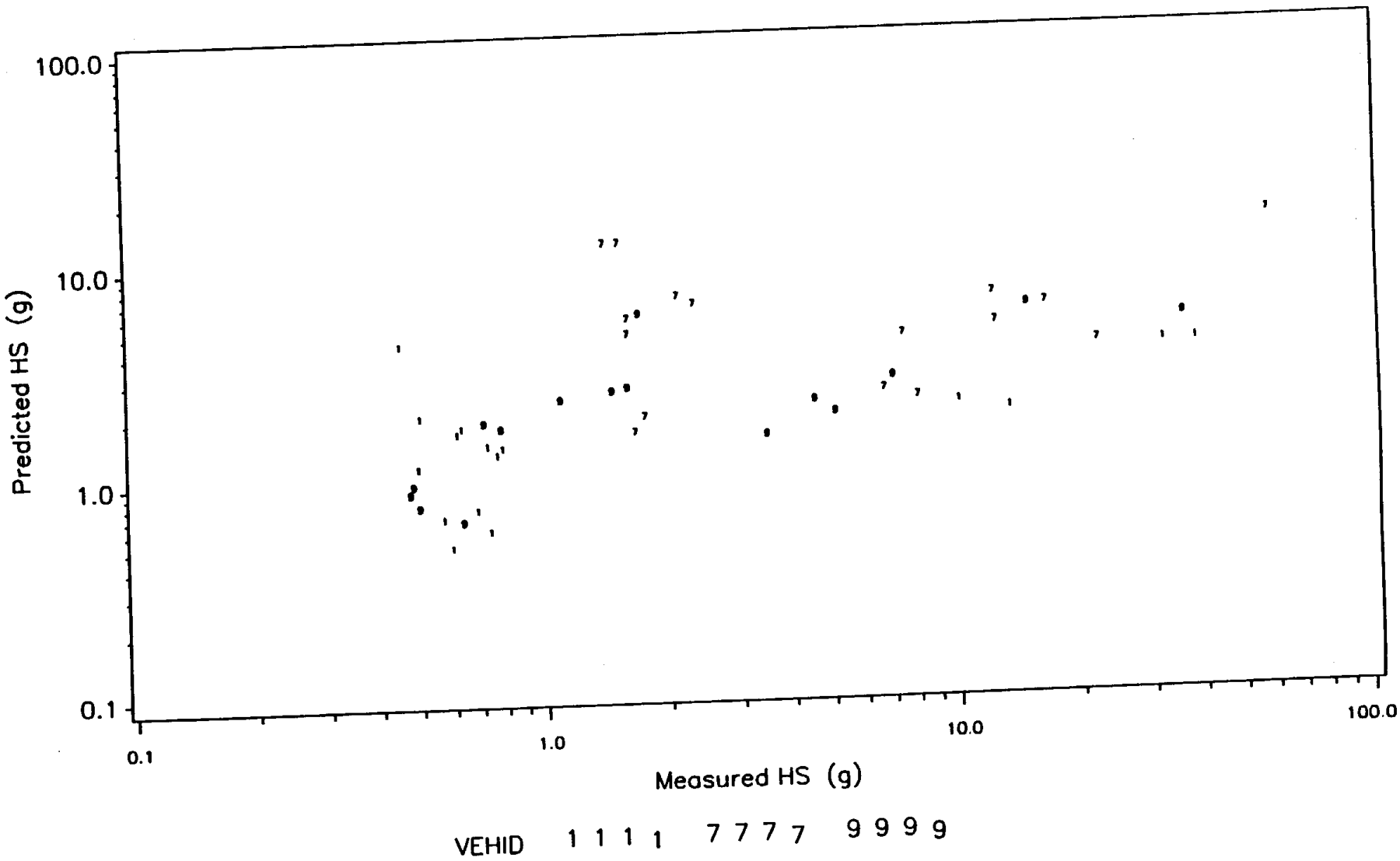
Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	2	12.47638955	6.23819477	3.74	0.0326
TEMP	1	8.70824994	8.70824994	5.23	0.0278
SEASON	1	5.28125312	5.28125312	3.17	0.0828
OXY*BLENDTYP	4	7.64742739	1.91185685	1.15	0.3488

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	1.187051528 B	1.52	0.1360	0.77982795
	7	2.380703781 B	3.05	0.0041	0.77982795
	9	1.465121005 B	1.88	0.0682	0.78107383
TEMP	75	-1.049257707 B	-2.29	0.0278	0.45900100
	95	0.000000000 B	.	.	.
SEASON	Summer	-0.856738033 B	-1.78	0.0828	0.48125633
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	0.083134749	0.31	0.7594	0.26955509
	EtOH	0.155363121	0.58	0.5677	0.26955509
	EtOH/SB	0.489985691	1.94	0.0597	0.25261650
	MTBE	0.199298016	0.74	0.4641	0.26955509
	xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

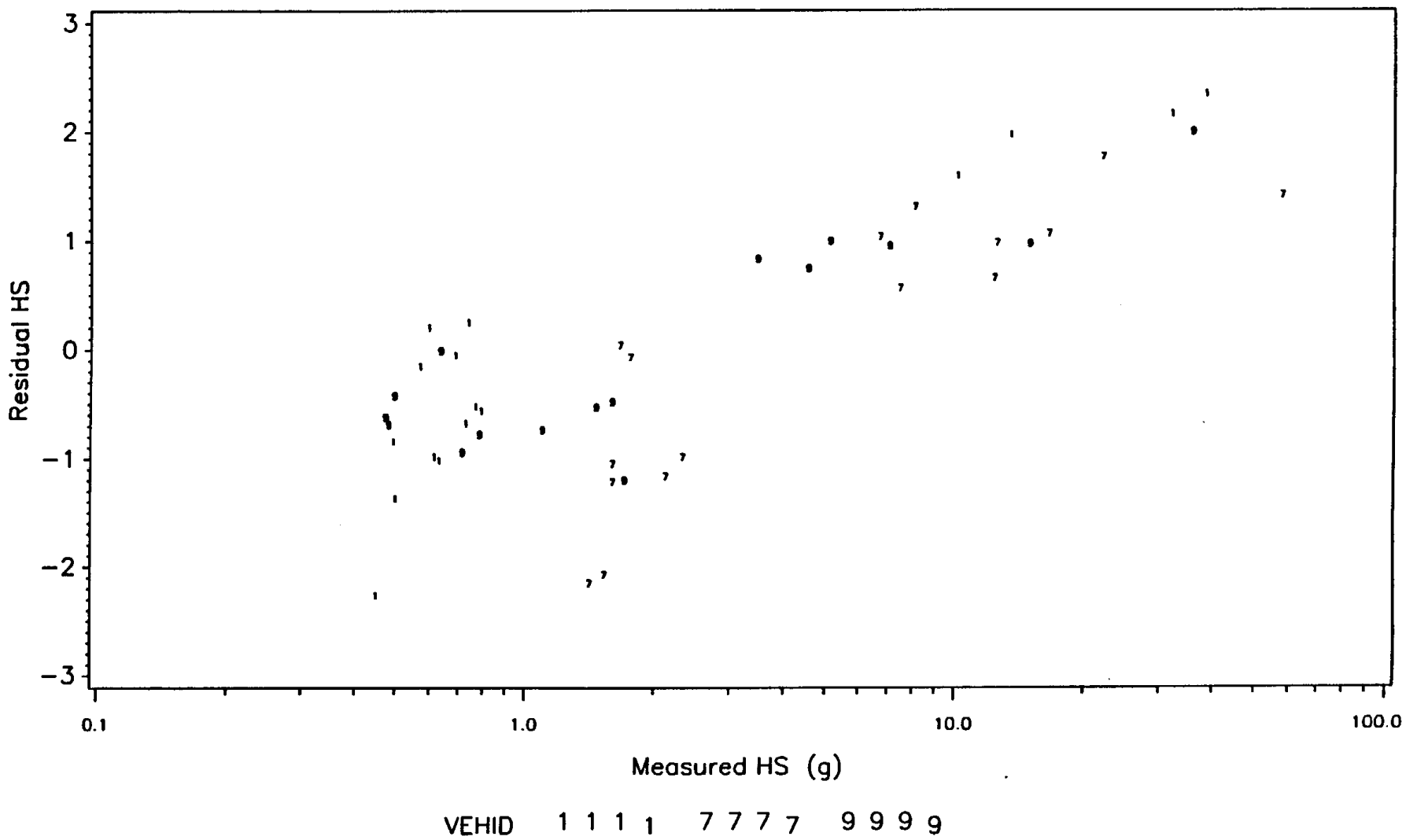
Evaporative Hot–Soak Emissions

Model: lnHS = vehid temp season blendtyp*oxy (Sensitives)



Evaporative Hot–Soak Emissions

Model: lnHS = vehid temp season blendtyp*oxy (Sensitives)



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General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	2 3 12
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V
FUELSYS	1	Carburetted
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CANISTER	2	CLOSED OPEN

Number of observations in by group = 43

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General Linear Models Procedure

Dependent Variable: LNHSEOP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	246.81836345	27.42426261	422.41	0.0001
Error	34	2.20739886	0.06492350		
Uncorrected Total	43	249.02576232			

R-Square	C.V.	Root MSE	LNHSEOP Mean
0.951173	11.70348	0.2548009	2.1771370

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	244.89982071	81.63327357	1257.38	0.0001
SEASON	1	0.57196783	0.57196783	8.81	0.0055
TEMP	1	0.26345423	0.26345423	4.06	0.0519
OXY*BLENDTYP	4	1.08312068	0.27078017	4.17	0.0074

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	2	40.92205083	20.46102542	315.16	0.0001
SEASON	1	0.63753476	0.63753476	9.82	0.0035
TEMP	1	0.27497629	0.27497629	4.24	0.0473
OXY*BLENDTYP	4	1.08312068	0.27078017	4.17	0.0074

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	1.132152281 B	7.28	0.0001	0.15557271
	3	3.478612397 B	21.79	0.0001	0.15967821
	12	2.771480961 B	17.81	0.0001	0.15557271
SEASON	Summer	-0.300862805 B	-3.13	0.0035	0.09601023
	Winter	0.000000000 B	.	.	.
TEMP	75	-0.200081842 B	-2.06	0.0473	0.09722120
	95	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.037886269	-0.71	0.4813	0.05320489
	EtOH	0.108514428	1.99	0.0551	0.05462084
	EtOH/SB	0.144325427	2.71	0.0104	0.05320489
	MTBE	0.009033554	0.17	0.8696	0.05462084
	xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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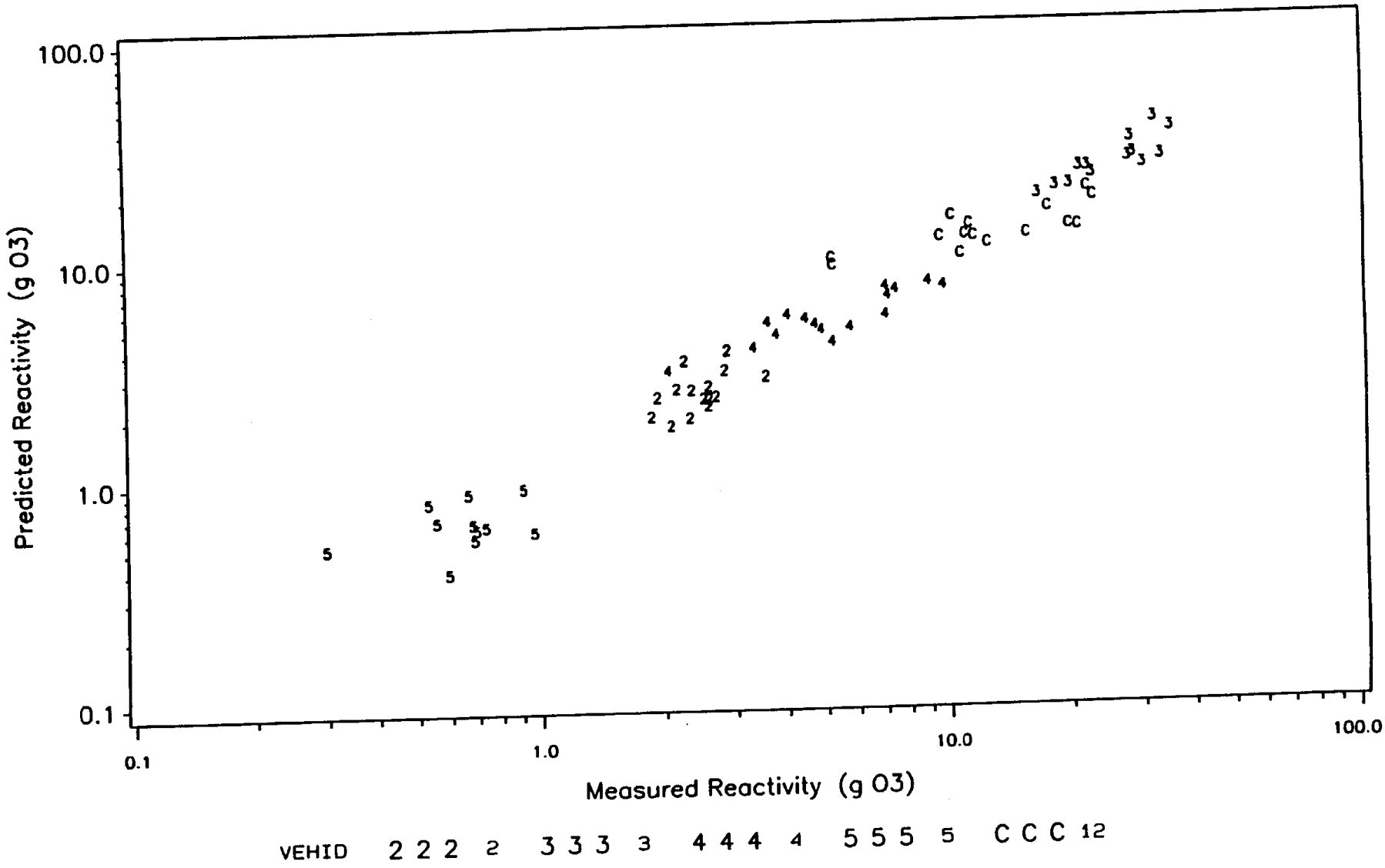
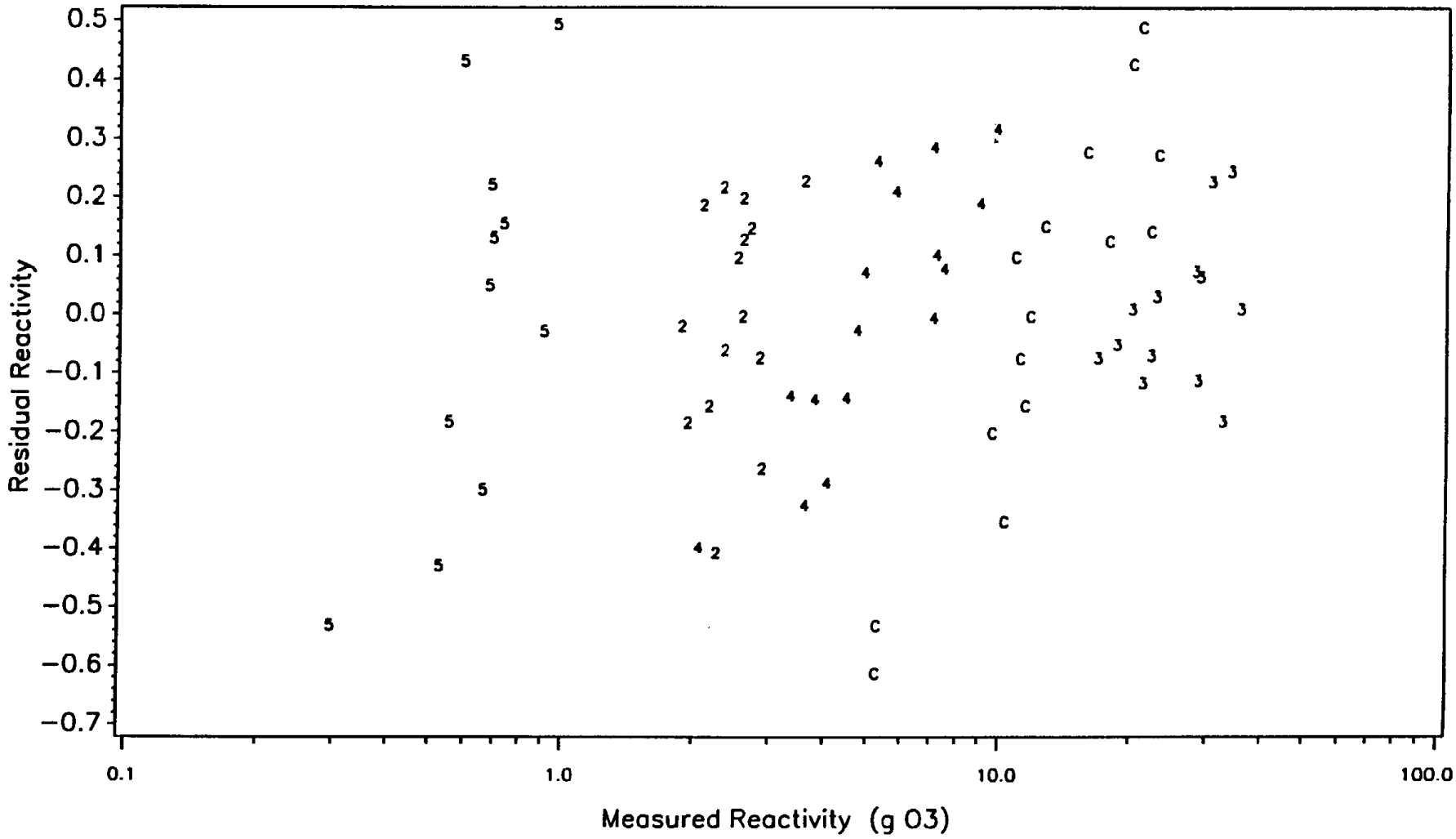
Estimated Ozone Production for Hot Soak Emissions

Model: lnHSEOP = vehid season temp blendtyp*oxy (by carbfi)



Estimated Ozone Production for Hot Soak Emissions

Model: lnHSEOP = vehid season temp blendtyp*oxy (by carbfi)



VEHID 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 C C C 12

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General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	2	1 9
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V
FUELSYS	2	Multipoint ThrottleBody
EMSTECH	1	3wayAdaptive
CANISTER	2	CLOSED OPEN

Number of observations in data set = 29

General Linear Models Procedure

Dependent Variable: LNHSEOP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	89.80651307	11.22581413	18.62	0.0001
Error	21	12.65997125	0.60285577		
Uncorrected Total	29	102.46648432			

R-Square	C.V.	Root MSE	LNHSEOP Mean
0.670649	52.25440	0.7764379	1.4858803

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	2	64.07253954	32.03626977	53.14	0.0001
SEASON	1	0.62214921	0.62214921	1.03	0.3213
TEMP	1	16.03927563	16.03927563	26.61	0.0001
OXY*BLENDTYP	4	9.07254869	2.26813717	3.76	0.0185

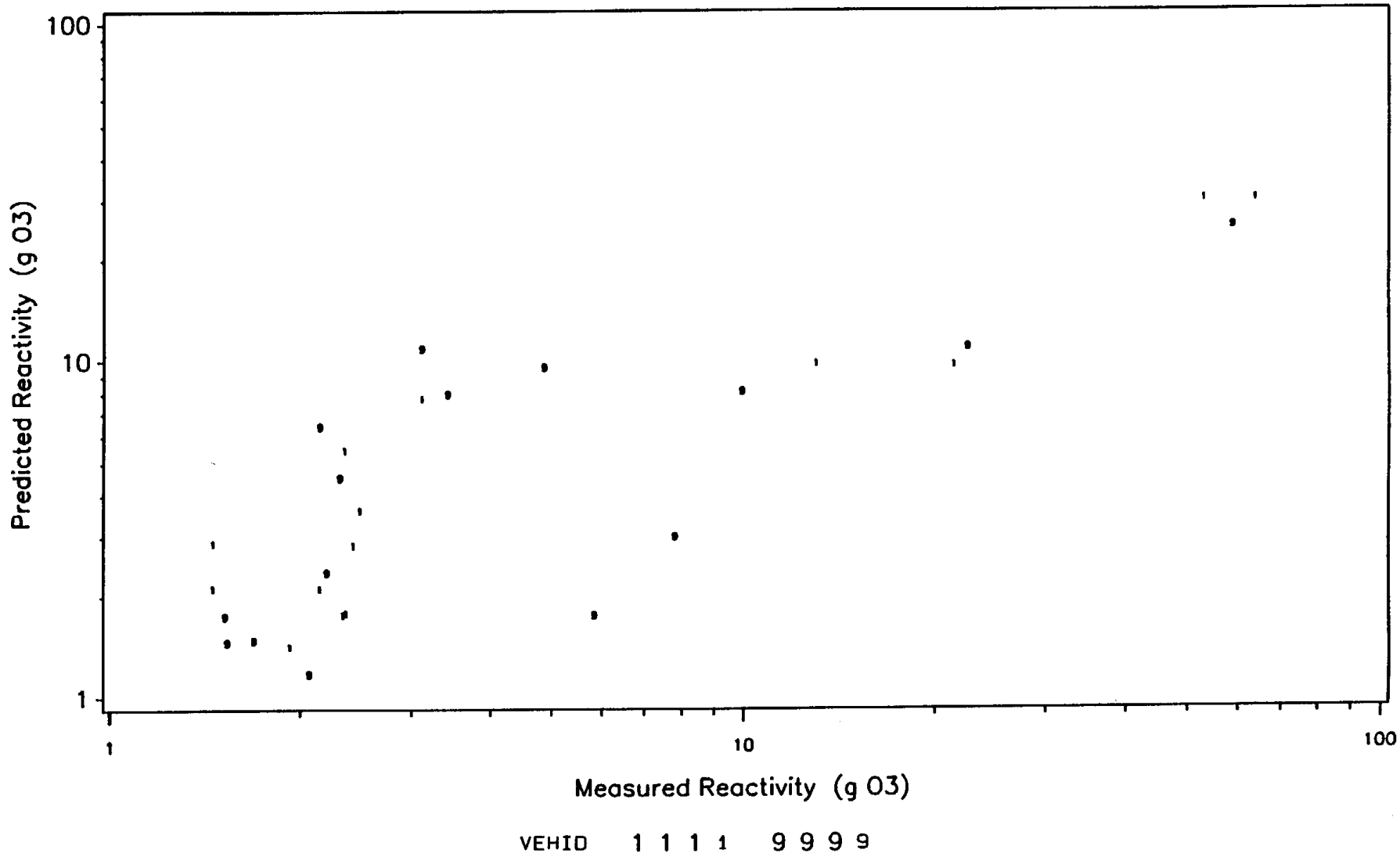
Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	1	0.24239872	0.24239872	0.40	0.5329
SEASON	1	0.71658543	0.71658543	1.19	0.2880
TEMP	1	14.18569047	14.18569047	23.53	0.0001
OXY*BLENDTYP	4	9.07254869	2.26813717	3.76	0.0185

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	2.440555011 B	4.30	0.0003	0.56720347
	9	2.255039815 B	3.99	0.0007	0.56453882
SEASON	Summer	-0.400508184 B	-1.09	0.2880	0.36735345
	Winter	0.000000000 B	.	.	.
TEMP	75	-1.695784550 B	-4.85	0.0001	0.34958448
	95	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	0.198180445	0.96	0.3488	0.20681428
	EtOH	0.108447874	0.55	0.5907	0.19856512
	EtOH/SB	0.674500748	3.48	0.0022	0.19369450
	MTBE	0.114715906	0.53	0.5996	0.21522509
	xBase	0.000000000	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Estimated Ozone Production for Hot Soak Emissions

Model: lnHSEOP = vehid season temp blendtyp*oxy



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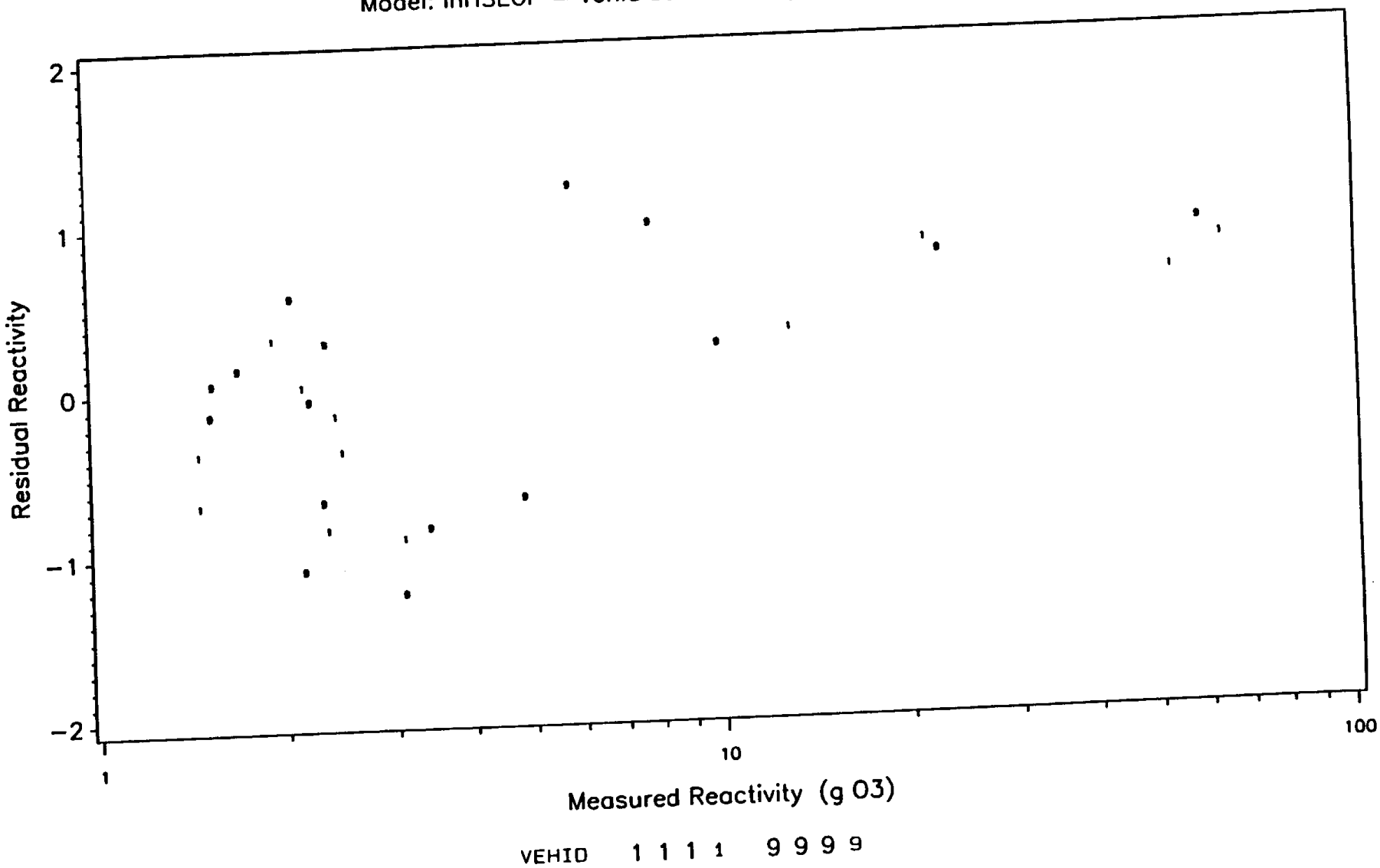
Estimated Ozone Production for Hot Soak Emissions

Model: lnHSEOP = vehid season temp blendtyp*oxy



Evaporative Toxic Emissions for Hot Soak Benzene 1
Model: lnHSBZ = vehid season blendtyp*oxy temp

---------- CARBFI=carb ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	carb
VEHID	3	2 3 12
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V

Number of observations in by group = 43

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Evaporative Toxic Emissions for Hot Soak Benzene 2
Model: lnHSBZ = vehid season blendtyp*oxy temp

---------- CARBFI=carb ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	411.95212787	45.77245865	862.24	0.0001
Error	34	1.80490365	0.05308540		
Uncorrected Total	43	413.75703151			

R-Square	C.V.	Root MSE	LNBZ Mean
0.952387	-7.793183	0.2304027	-2.9564648

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	410.38089222	136.79363074	2576.86	0.0001
SEASON	1	0.24674320	0.24674320	4.65	0.0383
OXY*BLENDTYP	4	1.24398242	0.31099561	5.86	0.0011
TEMP	1	0.08051001	0.08051001	1.52	0.2266

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	2	34.35176779	17.17588390	323.55	0.0001
SEASON	1	0.25064227	0.25064227	4.72	0.0368
OXY*BLENDTYP	4	1.25436551	0.31359138	5.91	0.0010
TEMP	1	0.08051001	0.08051001	1.52	0.2266

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	-3.939015580 B	-28.00	0.0001	0.14067600
	3	-1.734506834 B	-12.01	0.0001	0.14436839
	12	-2.613670189 B	-18.58	0.0001	0.14067600
SEASON	Summer	-0.188644315 B	-2.17	0.0368	0.08681687
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	-0.083339668	-1.73	0.0923	0.04811031
	EtOH	0.106402421	2.15	0.0384	0.04939068
	EtOH/SB	0.111927102	2.33	0.0261	0.04811031
	MTBE	-0.014344332	-0.29	0.7733	0.04939068
	xBase	0.000000000	.	.	.
TEMP	75	-0.108264233 B	-1.23	0.2266	0.08791189
	95	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

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---------- CARBFI=fi ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	fi
VEHID	4	1 4 5 9
SEASON	2	Summer Winter
TEMP	2	75 95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	10	M N O P Q R S T U V

Number of observations in by group = 55

---------- CARBFI=fi ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	923.84727882	92.38472788	862.37	0.0001
Error	45	4.82079388	0.10712875		
Uncorrected Total	55	928.66807270			

R-Square	C.V.	Root MSE	LNBZ Mean
0.865719	-8.123912	0.3273053	-4.0289123

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	4	922.20798608	230.55199652	2152.10	0.0001
SEASON	1	0.81785811	0.81785811	7.63	0.0083
OXY*BLENDTYP	4	0.54422741	0.13605685	1.27	0.2958
TEMP	1	0.27720722	0.27720722	2.59	0.1147

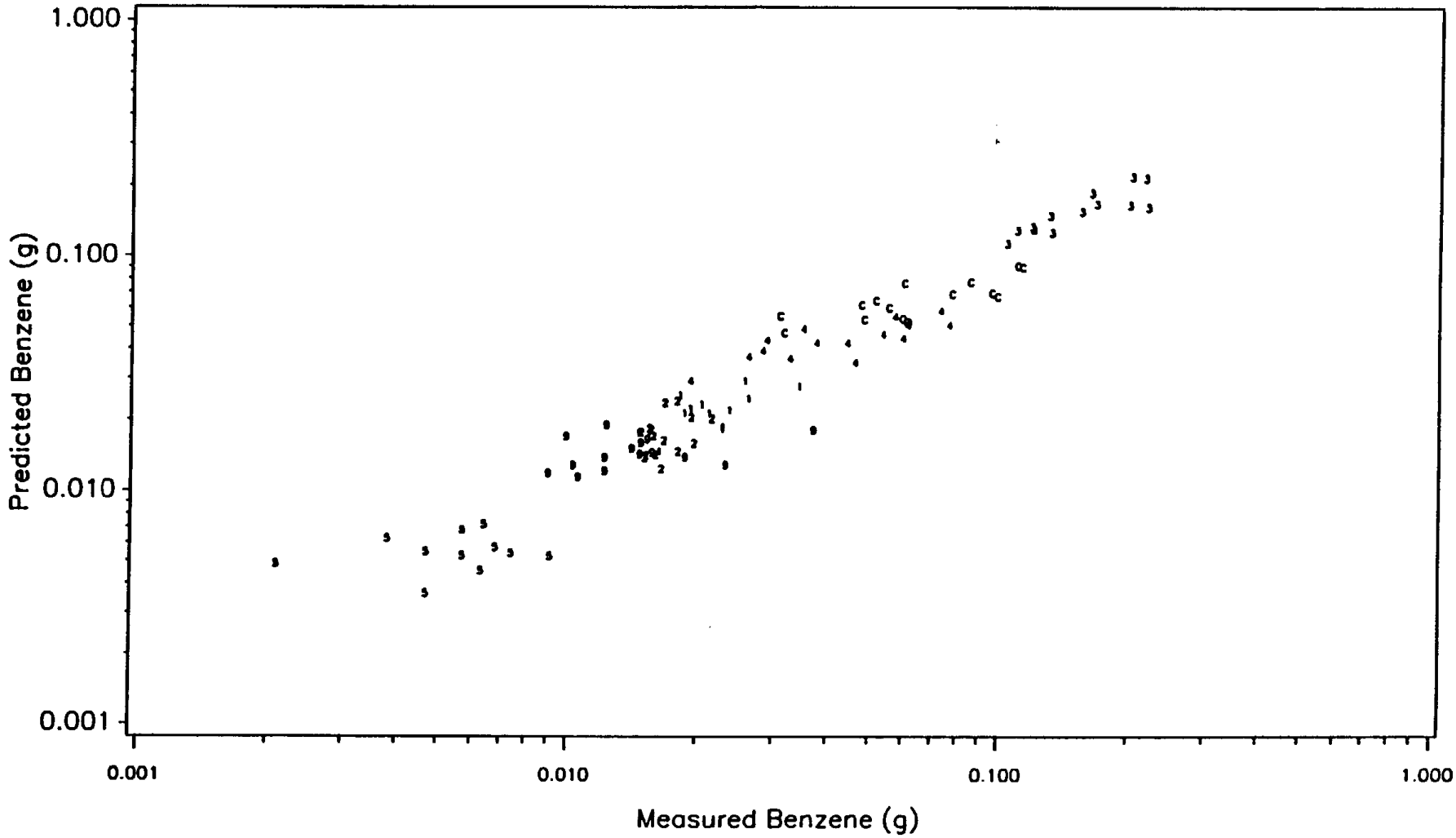
Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	3	29.11637489	9.70545830	90.60	0.0001
SEASON	1	0.29863264	0.29863264	2.79	0.1019
OXY*BLENDTYP	4	0 55397631	0.13849408	1.29	0.2871
TEMP	1	0.27720722	0.27720722	2.59	0.1147

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	-3.878289623 B	-20.38	0.0001	0.19031364
	4	-3.192877698 B	-17.71	0.0001	0.18033420
	5	-5.271376907 B	-27.60	0.0001	0.19099397
	9	-4.305343438 B	-23.21	0.0001	0.18550169
SEASON	Summer	0.191083319 B	1.67	0.1019	0.11444773
	Winter	0.000000000 B	.	.	.
OXY*BLENDTYP	ETBE	0.013873914	0.22	0.8265	0.06293697
	EtOH	0.069603089	1.14	0.2624	0.06132304
	EtOH/SB	0.042400524	0.70	0.4882	0.06066585
	MTBE	-0.066594606	-1.05	0.2995	0.06344077
	xBase	0.000000000	.	.	.
TEMP	75	-0.174950810 B	-1.61	0.1147	0.10875938
	95	0.000000000 B	.	.	.

NOTE: The X'X matrix has been found to be singular and a generalized inverse was used to solve the normal equations. Estimates followed by the letter 'B' are biased, and are not unique estimators of the parameters.

Evaporative Toxic Emissions for Hot Soak Benzene

Model: lnHSBZ = vehid season blendtyp*oxy temp



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 9 9 9 9 C C C 12

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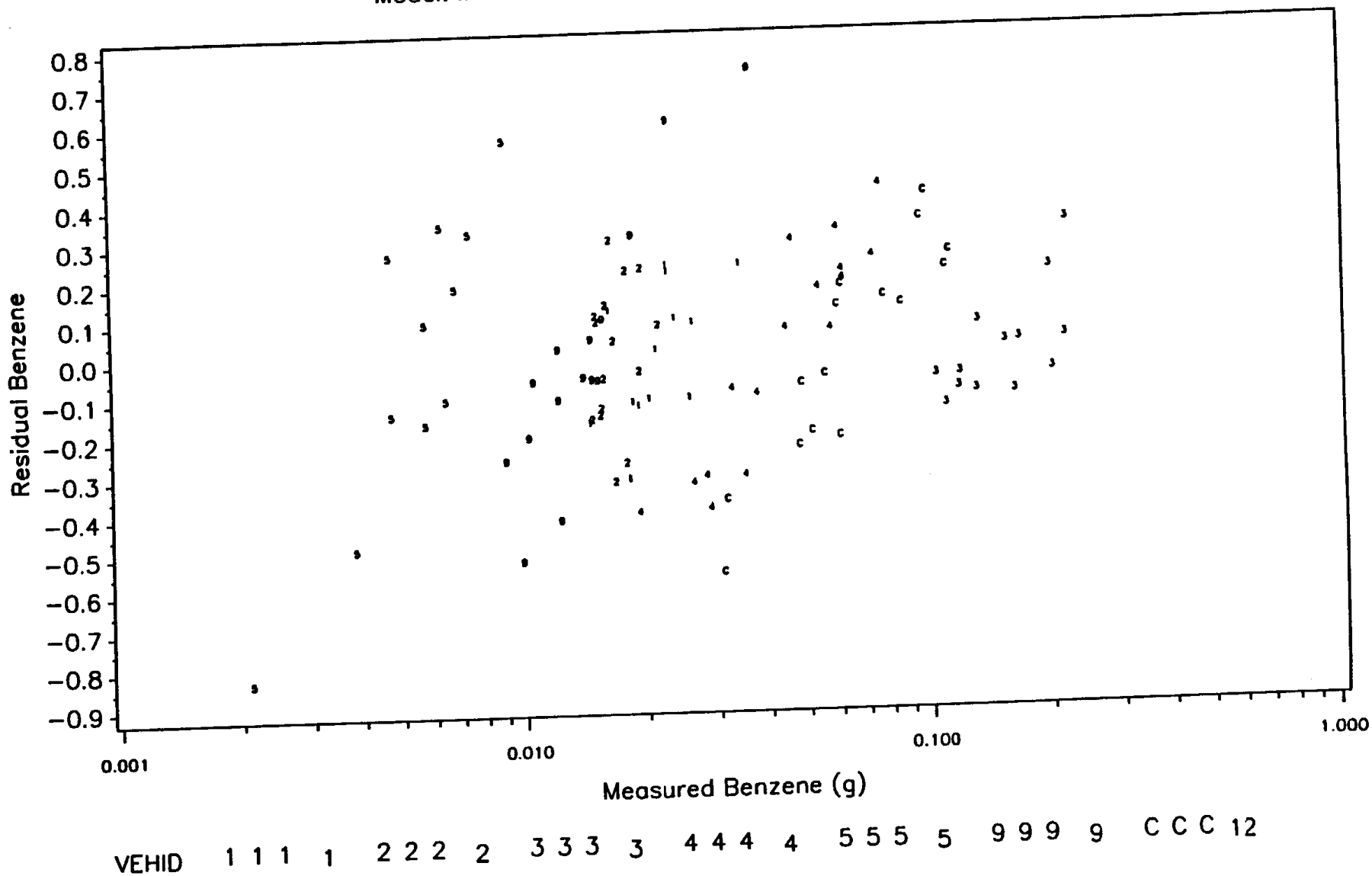
Evaporative Toxic Emissions for Hot Soak Benzene

Model: lnHSBZ = vehid season blendtyp*oxy temp



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Running Loss Emissions 1
Model: lnRL = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	2 3 12
SEASON	1	Summer
TEMP	1	95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	5	M O Q S U
FUELSYS	1	Carburetted
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CNSTR	2	CLOSED OPEN

Number of observations in by group = 15

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Running Loss Emissions 2
Model: lnRL = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure

Dependent Variable: LNRL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	73.71561119	10.53080160	27.39	0.0001
Error	8	3.07634152	0.38454269		
Uncorrected Total	15	76.79195271			

R-Square	C.V.	Root MSE	LNRL Mean
0.454036	28.47137	0.6201151	2.1780305

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	72.52815710	24.17605237	62.87	0.0001
OXY*BLENDTYP	4	1.18745409	0.29686352	0.77	0.5729

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	3	11.74800101	3.91600034	10.18	0.0042
OXY*BLENDTYP	4	1.18745409	0.29686352	0.77	0.5729

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	2.024123051	4.78	0.0014	0.42361923
	3	2.119543674	5.00	0.0010	0.42361923
	12	1.435875913	3.39	0.0095	0.42361923
OXY*BLENDTYP	ETBE	0.044527794	0.18	0.8648	0.25316091
	EtOH	0.211202325	0.83	0.4283	0.25316091
	EtOH/SB	0.398826987	1.58	0.1538	0.25316091
	MTBE	0.140900351	0.56	0.5930	0.25316091
	xBase	0.000000000	.	.	.

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Running Loss Emissions
Model: lnRL = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjected ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	1 6 9
SEASON	1	Summer
TEMP	1	95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	5	M O Q S U
FUELSYS	2	Multipoint ThrottleBody
EMSTECH	1	3wayAdaptive
CNSTR	2	CLOSED OPEN

Number of observations in by group = 15

Running Loss Emissions
Model: lnRL = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=FuelInjected ----------

General Linear Models Procedure

Dependent Variable: LNRL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	8.67118912	1.23874130	14.67	0.0006
Error	8	0.67567330	0.08445916		
Uncorrected Total	15	9.34686242			

R-Square	C.V.	Root MSE	LNRL Mean
0.722401	42.80947	0.2906186	0.6788651

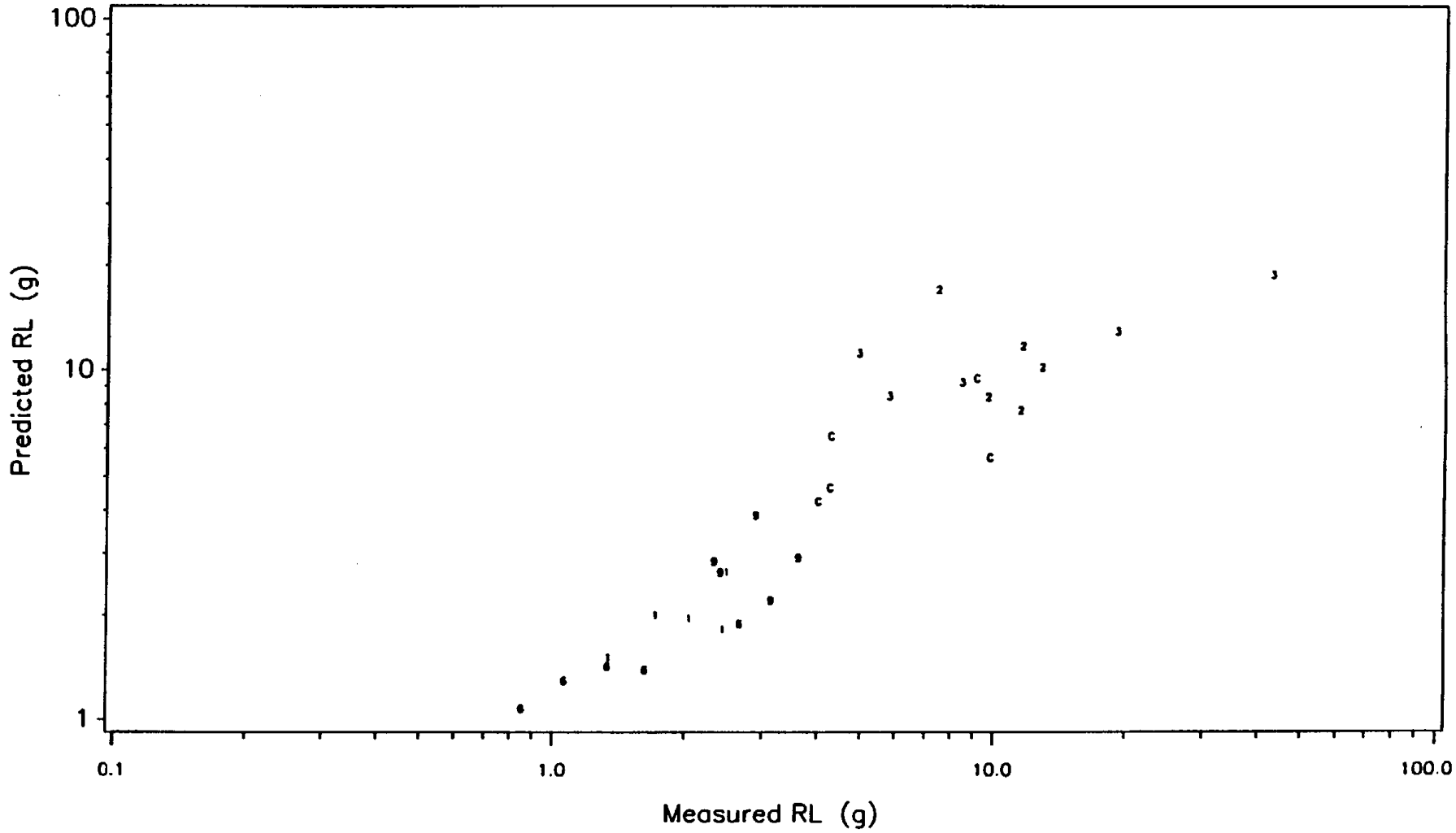
Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	8.18213378	2.72737793	32.29	0.0001
OXY*BLENDTYP	4	0.48905534	0.12226383	1.45	0.3035

Source	DF	Type III SS	Mean Square	F Value	Pr > F
VEHID	3	1.80790172	0.60263391	7.14	0.0119
OXY*BLENDTYP	4	0.48905534	0.12226383	1.45	0.3035

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	0.4125152847	2.08	0.0714	0.19853029
	6	0.0731990013	0.37	0.7219	0.19853029
	9	0.7854694031	3.96	0.0042	0.19853029
OXY*BLENDTYP	ETBE	0.1276265756	1.08	0.3134	0.11864454
	EtOH	0.0917408690	0.77	0.4616	0.11864454
	EtOH/SB	0.1390327327	1.17	0.2750	0.11864454
	MTBE	0.2794429160	2.36	0.0463	0.11864454
	xBase	0.0000000000	.	.	.

Running Loss Emissions

Model: lnRL = vehid blendtyp*oxy (by carbfi)



VEHID 1 1 1 1 2 2 2 2 3 3 3 3 6 6 6 6 9 9 9 9 C C C 12

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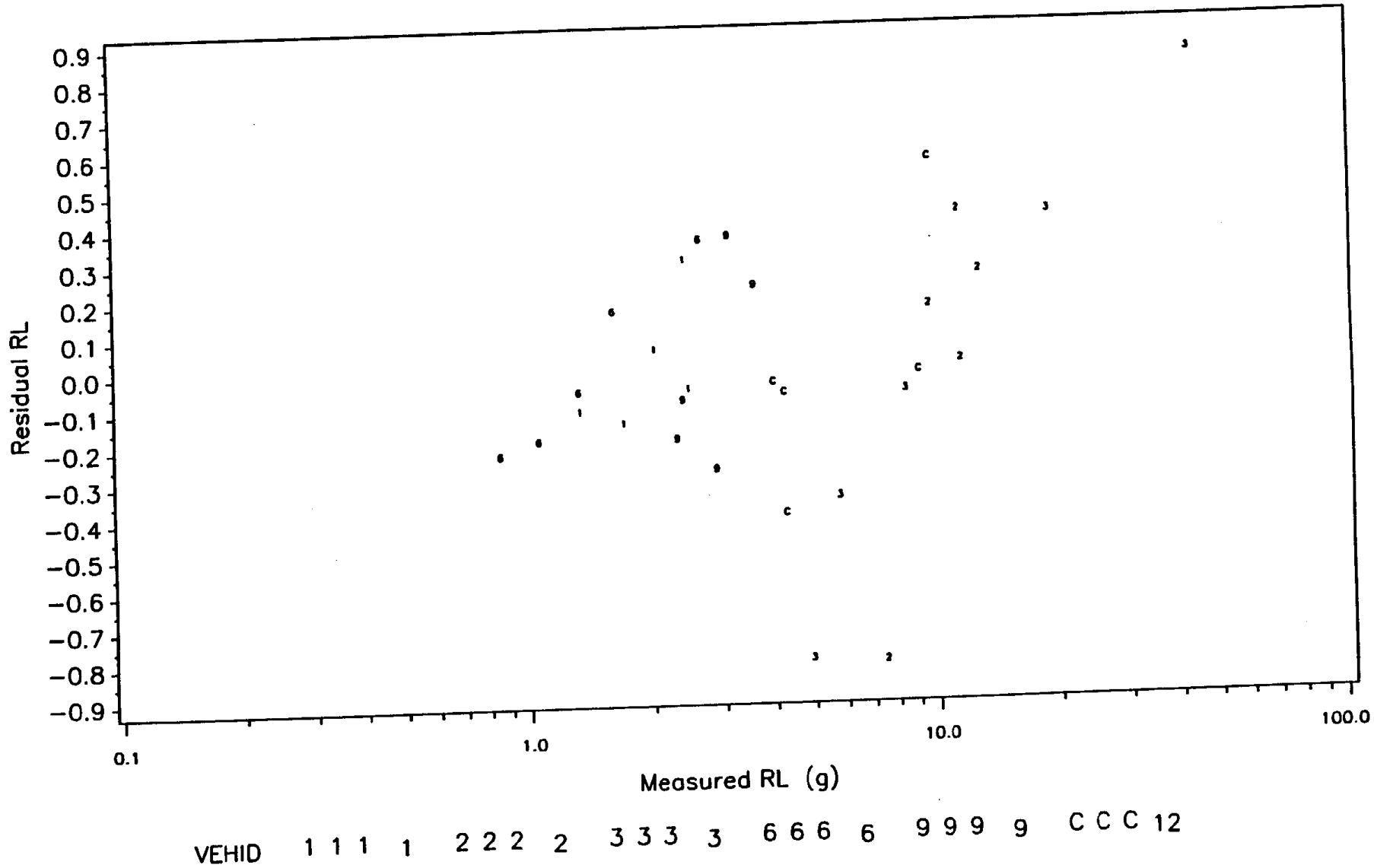
Running Loss Emissions

Model: lnRL = vehid blendtyp*oxy (by carbfi)



Estimated Ozone Production for Running Loss Emissions 1
Model: lnRLEOP = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
VEHID	3	2 3 12
SEASON	1	Summer
TEMP	1	95
BLENDTYP	4	ETBE EtOH MTBE xBase
FUELID	4	M O Q S
FUELSYS	1	Carburetted
EMSTECH	3	3wayNonadapt Noncatalyst Oxycatalyst
CANISTER	2	CLOSED OPEN

Number of observations in by group = 8

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Estimated Ozone Production for Running Loss Emissions 2
Model: lnRLEOP = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=Carburetted ----------

General Linear Models Procedure

Dependent Variable: LNRL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	71.50403216	11.91733869	514.76	0.0019
Error	2	0.04630212	0.02315106		
Uncorrected Total	8	71.55033427			

R-Square	C.V.	Root MSE	LNRL Mean
0.971964	5.147490	0.1521547	2.9559010

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	70.62092255	23.54030752	1016.81	0.0010
OXY*BLENDTYP	3	0.88310961	0.29436987	12.72	0.0738

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	11.11545084	3.70515028	160.04	0.0062
OXY*BLENDTYP	3	0.88310961	0.29436987	12.72	0.0738

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	2.713050822	15.07	0.0044	0.18003189
	3	2.507470414	19.24	0.0027	0.13029752
	12	2.112076777	16.21	0.0038	0.13029752
OXY*BLENDTYP	ETBE	0.130667872	1.11	0.3830	0.11785854
	EtOH	0.401542600	4.57	0.0447	0.08784657
	MTBE	0.381563038	5.19	0.0352	0.07349771
	xBase	0.000000000	.	.	.

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Evaporative Toxic Emissions for Running Loss Benzene 1
Model: lnRLBZ = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=carb ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	carb
VEHID	3	2 3 12
SEASON	1	Summer
TEMP	1	95
BLENDTYP	4	ETBE EtOH MTBE xBase
FUELID	4	M O Q S

Number of observations in by group = 8

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Evaporative Toxic Emissions for Running Loss Benzene 2
Model: lnRLBZ = vehid blendtyp*oxy (by carbfi)

---------- CARBFI=carb ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	29.82413002	4.97068834	28.82	0.0339
Error	2	0.34492798	0.17246399		
Uncorrected Total	8	30.16905800			

R-Square	C.V.	Root MSE	LNBZ Mean
0.875746	-22.44263	0.4152878	-1.8504416

Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	28.36313615	9.45437872	54.82	0.0180
OXY*BLENDTYP	3	1.46099388	0.48699796	2.82	0.2723

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	13.89662496	4.63220832	26.86	0.0361
OXY*BLENDTYP	3	1.46099388	0.48699796	2.82	0.2723

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	2	-2.686771681	-5.47	0.0319	0.49137520
	3	-2.016674783	-5.67	0.0297	0.35563126
	12	-3.038003312	-8.54	0.0134	0.35563126
OXY*BLENDTYP	ETBE	0.429588879	1.34	0.3134	0.32168058
	EtOH	0.585589635	2.44	0.1346	0.23976655
	MTBE	0.533767627	2.66	0.1170	0.20060308
	xBase	0.000000000	.	.	.

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---------- CARBFI=fi ----------

General Linear Models Procedure
Class Level Information

Class	Levels	Values
CARBFI	1	fi
VEHID	3	1 6 9
SEASON	1	Summer
TEMP	1	95
BLENDTYP	5	ETBE EtOH EtOH/SB MTBE xBase
FUELID	5	M O Q S U

Number of observations in by group = 12

---------- CARBFI=fi ----------

General Linear Models Procedure

Dependent Variable: LNBZ

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	76.85763049	10.97966150	39.46	0.0004
Error	5	1.39121563	0.27824313		
Uncorrected Total	12	78.24884612			

R-Square	C.V.	Root MSE	LNBZ Mean
0.689895	-21.27575	0.5274876	-2.4792904

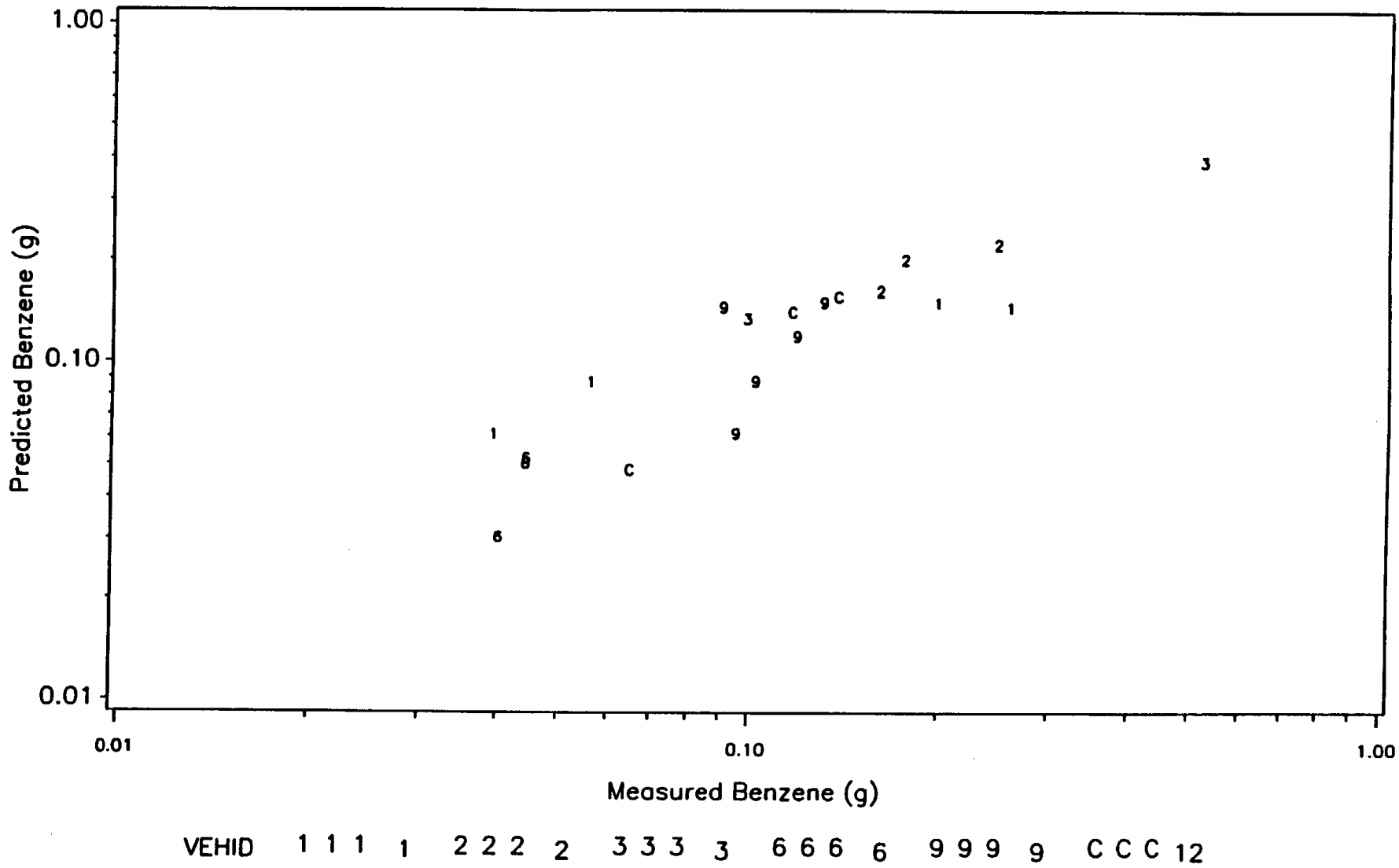
Source	DF	Type I SS	Mean Square	F Value	Pr > F
VEHID	3	75.56776433	25.18925478	90.53	0.0001
OXY*BLENDTYP	4	1.28986616	0.32246654	1.16	0.4272

Source	DF	Type II SS	Mean Square	F Value	Pr > F
VEHID	3	25.64827162	8.54942387	30.73	0.0012
OXY*BLENDTYP	4	1.28986616	0.32246654	1.16	0.4272

Parameter		Estimate	T for H0: Parameter=0	Pr > |T|	Std Error of Estimate
VEHID	1	-2.443705586	-6.46	0.0013	0.37813496
	6	-3.497491921	-8.90	0.0003	0.39316601
	9	-2.441348364	-6.46	0.0013	0.37813496
OXY*BLENDTYP	ETBE	0.251705797	1.17	0.2952	0.21534589
	EtOH	0.268442066	1.25	0.2678	0.21534589
	EtOH/SB	0.152985595	0.47	0.6572	0.32451085
	MTBE	-0.176075780	-0.71	0.5105	0.24866002
	xBase	0.000000000	.	.	.

Evaporative Toxic Emissions for Running Loss Benzene

Model: lnRLBZ = vehid blendtyp*oxy (by carbfi)



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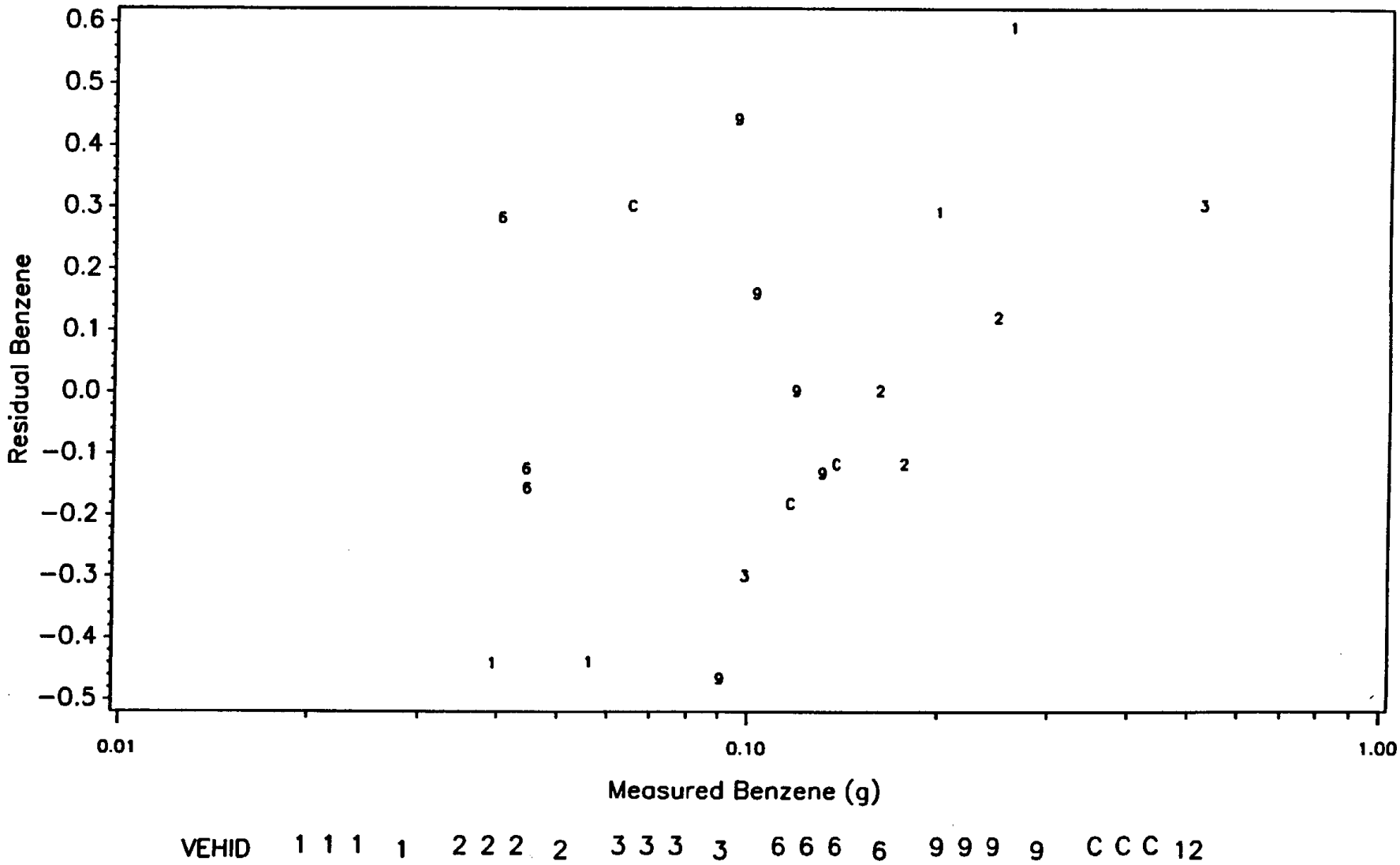
Evaporative Toxic Emissions for Running Loss Benzene

Model: lnRLBZ = vehid blendtyp*oxy (by carbfi)



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