

Kansas City PM Characterization Study

Final Report

Appendix S

Round 1 Dynamometer Test Issues

Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

Sponsors:

National Renewable Energy Laboratory, U.S. Department of Energy
Federal Highway Administration, U.S. Department of Transportation
STAPPA-ALAPCO Emission Inventory Improvement Program
Coordinating Research Council Inc. (Project No. E-69)

Prepared for EPA by
Eastern Research Group, Incorporated
Austin, TX

Bevilacqua-Knight Incorporated
Oakland, CA

NuStats LLC
Austin, TX

Desert Research Institute
Reno, NV

EPA Contract No. GS 10F-0036K

October 27, 2006
Revised April 2008 by EPA staff



United States
Environmental Protection
Agency

EPA420-R-08-009
April 2008

Run #	Veh Yr, Make, Model	Odometer (Miles)	Inertia (Lbs)	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84032	2001 Chevrolet Cavalier	57066	3000	6.4	10:57 a.m.	07/14/2004	Traction Control (TCS) engaged 100 sec PH1 & 3,	
84034	1999 Isuzu Trooper	63387	4500	14.8	2:15 p.m.	07/14/2004		
84035	2001 GMC Yukon	75374	5500	18.8	4:00 p.m.	07/14/2004	Phase 2 dilution temp over 50C.	
84036	1995 Ford Escort	102663	2750	5.6	9:13 a.m.	07/15/2004	Phase 2 dilution temp over 50C.	
84037	1979 Ford F250	02285	3500	10.5	10:50 a.m.	07/15/2004		
84039	2001 Ford F150	48831	5500	16.2	9:20 a.m.	07/16/2004	Engine stalled several times.	
84040	1990 Dodge Spirit	109270	3000	8.7	11:03 a.m.	07/16/2004		
84042	1996 Honda Civic	131492	2500	6.9	9:20 a.m.	07/17/2004		
84043	1991 Honda Civic	216571	2500	6.9	10:37 a.m.	07/17/2004		
84047	1996 Mazda 626	26614	3000	7.7	9:31 a.m.	07/19/2004		
84048	1989 Dodge Caravan	161033	3500	7.6	11:00 a.m.	07/19/2004	Torque data voided due to negative baseline drift. Vehicle A/C was on during test (switch was broken). Error in real-time torque measurement corrected during data processing.	
84050	2002 Honda Civic	50405	3000	5.3	8:09 a.m.	07/20/2004		
84051	1995 Chevy Corsica	111484	3000	5.9	9:32 a.m.	07/20/2004		
84052	1988 Olds Cutlass	81545	3000	6.4	11:01 a.m.	07/20/2004		
84054	1995 GMC Jimmy	102924	3500	10.7	2:03 p.m.	07/20/2004		
84055	1998 Jeep Cherokee	131884	3500	11.8	3:36 p.m.	07/20/2004		
84056	2002 Nissan Frontier P/U	38153	4500	16.5	8:20 a.m.	07/21/2004		
84057	2001 Saturn SL1	51541	2500	6.1	9:45 a.m.	07/21/2004		
84058	1999 Chrysler 300M	73246	3500	5.8	11:04 a.m.	07/21/2004		
84060	1998 Buick LeSabre	45455	3500	5.9	2:00 p.m.	07/21/2004		
84061	1990 Chevy Cavalier	81297	2750	5.6	3:28 p.m.	07/21/2004	Error in real-time torque measurement corrected during data processing.	
84062	1998 Buick Lesabre	45483	3500	5.9	8:20 a.m.	07/22/2004		
84063	1998 Saturn SC	74642	2500	6.0	9:30 a.m.	07/22/2004		
84064	1994 Mercury Villager	131405	4000	8.4	11:00 a.m.	07/22/2004		
84066	1995 Jeep Wrangler	71165	3000	15.7	2:07 p.m.	07/22/2004	No tunnel heater for this test. Difficult shifting vehicle from 4th to 5th. Error in real-time torque measurement corrected during data processing.	x
84067	1995 Dodge Caravan	138912	4000	7.0	3:45 p.m.	07/22/2004	Error in real-time torque measurement corrected during data processing.	
84068	2001 Toyota Solara	48090	3500	7.0	8:26 a.m.	07/23/2004	Error in real-time torque measurement corrected during data processing.	
84069	1997 Dodge Caravan Sport	90070	3500	7.2	9:58 a.m.	07/23/2004	Error in real-time torque measurement corrected during data processing.	
84071	1989 Pontiac Grand Am	116827	3000	5.9	12:35 p.m.	07/23/2004	Error in real-time torque measurement corrected during data processing.	

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84072	2003 Chevy S-10 P/U	19374	3500	12.0	8:33 a.m.	07/24/2004	Zero Drift on Torque Readout. Error in real-time torque measurment corrected during data processing.	
84073	1995 Chevy Blazer	100766	3500	10.7	10:09 a.m.	07/24/2004	Phase 3 torque baseline corrected due to drift during soak. Error in real-time torque measurment corrected during data processing.	
84074	1986 Nissan P/U	138620	3500	11.4	11:30 a.m.	07/24/2004	Error in real-time torque measurment corrected during data processing.	
84076	1968 FordMustang	98864	3000	8.0	2:30 p.m.	07/24/2004	Error in real-time torque measurment corrected during data processing.	
84077	1999 Honda Civic	76504	2500	5.1	8:10 a.m.	07/26/2004	Vehicle had exhaust leaks, possible dilution.	
84078	1997 Honda Accord	79593	3000	4.9	9:32 a.m.	07/26/2004		
84079	1989 Honda Accord	209991	2750	6.0	11:08 a.m.	07/26/2004	First 630 seconds of run invalid (diluted exhaust was inadvertently sampled into the ambient monitor)	x
84081	1988 Ford Taurus	13139	3500	4.0	2:01 p.m.	07/26/2004		
84082	2003 Ford Taurus	25287	3500	6.8	8:14 a.m.	07/27/2004		
84083	2000 Honda Accord	77962	3000	7.8	9:41 a.m.	07/27/2004		
84084	1998 Chevy Malibu	99436	3000	5.8	11:04 a.m.	07/27/2004		
84086	2004 Honda Odyssey	21035	4500	12.0	8:15 a.m.	07/28/2004	Vehicle's traction control system was engaged during first minute of phase 1.	
84087	2000 Hyundai Tiburon	89226	3000	5.9	9:41 a.m.	07/28/2004		
84088	1998 Chevrolet Lumina	70740	3500	5.5	11:03 a.m.	07/28/2004		
84090	1999 Ford Mustang	39505	3500	9.7	1:47 p.m.	07/28/2004		
84091	1991 Cadillac Seville	70502	3500	6.2	3:04 p.m.	07/28/2004		
84092	1999 Saturn	53427	2500	5.5	8:11 a.m.	07/29/2004		
84093	1997 Nissan Sentra	119201	2750	7.0	9:36 a.m.	07/29/2004		
84094	1993 Ford Explorer	120280	4000	10.2	11:09 a.m.	07/29/2004		
84096	1999 Isuzu Rodeo	114937	4000	14.0	2:06 p.m.	07/29/2004		
84097	2002 Mercury Sable	24589	3500	6.8	8:02 a.m.	07/30/2004		
84098	1999 Ford Ranger	91045	3500	12.1	9:22 a.m.	07/30/2004		
84099	1999 Toyota Avalon	114759	3500	5.9	10:43 a.m.	07/30/2004		
84101	2004 Toyota Camry	169043	3500	7.2	1:22 p.m.	07/30/2004		
84102	1998 Honda Civic	149665	2500	5.1	2:41 p.m.	07/30/2004		
84103	2000 Nissan Maxima	74273	3500	7.4	8:10 a.m.	07/31/2004		
84104	1998 Plymouth Voyager	163238	4000	7.0	9:45 a.m.	07/31/2004		
84105	1997 Toyota Corolla	146471	2750	7.8	11:02 a.m.	07/31/2004		
84107	1989 Buick LeSabre	108562	3500	7.0	1:35 p.m.	07/31/2004		
84108	1990 Honda Civic	214131	2500	6.5	3:00 p.m.	07/31/2004		
84109	1998 Plymouth Voyager	163258	4000	7.0	8:30 a.m.	08/02/2004	Duplicate test. HP set at 7.0 but read 3.4 after test. Phase 3 torque baseline corrected due to drift during soak.	x
84110	1995 Ford Contour	102084	3000	5.0	9:57 a.m.	08/02/2004		
84111	1996 Chevrolet S-10 P/U	112263	3500	9.3	11:00 a.m.	08/02/2004		
84113	1993 Pontiac Grand Prix	172185	3500	5.0	1:42 p.m.	08/02/2004		
84114	1988 Ford Taurus	13158	3500	4.0	3:07 p.m.	8/02/2004		
84115	1995 Ford Contour	102096	3000	5.0	8:00 a.m.	08/03/2004		
84116	1996 Chevrolet S-10 P/U	112276	3500	9.3	9:40 a.m.	08/03/2004	Duplicate test. Braking violations during testing.	
84119	1995 Jeep Cherokee	171701	4000	13.1	12:42 p.m.	08/03/2004		

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84120	1984 Honda Civic	87570	2250	7.2	2:30 p.m.	08/03/2004		
84121	2001 Volvo S80	55523	4000	4.0	8:05 a.m.	08/04/2004		
84122	1999 Dodge Caravan	104207	4000	7.3	9:30 a.m.	08/04/2004		
84123	1984 Honda Civic	87590	2250	7.2	10:30 a.m.	08/04/2004		
84125	1995 Ford Explorer	160621	4500	11.5	1:05 p.m.	08/04/2004		
84126	1988 Ford Thunderbird	178221	3500	9.1	2:55 p.m.	08/04/2004	Braking violations during testing. Bags were being evacuated for the first 30 seconds of phase 1	
84127	00 Chrysler Town and Coun	85431	4500	9.3	8:12 a.m.	08/05/2004		
84128	2000 Toyota Camry	48465	3500	7.3	9:30 a.m.	08/05/2004	Vehicle difficult to start at beginning of test. Drive trace violations due to sticky throttle and drive trace display monitor failure at the start of phase 3.	x
84129	1999 Toyota Celica GT	72233	3000	6.5	10:10 a.m.	08/05/2004		
84131	1997 Chevy Cavalier	128172	3000	5.4	1:18 p.m.	08/05/2004		
84132	1993 Cherokee Sport	172409	3500	15.6	2:15 p.m.	08/05/2004	Braking violations during testing.	
84133	1998 Buick Century	71195	3500	5.9	8:10 a.m.	08/6/2004		
84134	1997 Mercury Grand Marquis	74497	4000	9.5	9:30 a.m.	8/06/2004	Vehicle difficult to start at beginning of test.	
84135	1993 Ford Probe	129131	3000	8.1	10:45 a.m.	08/06/2004		
84137	1993 Jeep Cherokee	172421	3500	15.6	1:30 p.m.	08/06/2004	Vehicle tie-down straps too tight at start of phase 1, loosened 60 to 90 seconds into test. Braking violations during testing, Phase 2 dilution temp over 50C.	
84138	1995 Ford Bronco	198053	5000	10.7	3:00 p.m.	08/06/2004		
84139	1999 Ford Escort	66820	2750	5.6	8:23 a.m.	08/07/2004	Tire/roller slippage at start of test.	
84140	2002 Chevy Blazer	35072	3500	11.3	9:45 a.m.	08/07/2004		
84141	1990 Honda Accord	170433	3000	5.9	11:00 a.m.	08/07/2004	lbs).	x
84143	1988 Ford Taurus	13170	3500	4.0	2:15 p.m.	08/07/2004		
84144	1993 Plymouth Voyager	170027	4000	7.3	8:10 a.m.	08/09/2004		
84145	1990 Jeep Cherokee	261848	3500	10.8	9:30 a.m.	08/09/2004	Vehicle stalled during phase 1, possible dilution due to exhaust leaks. Torque meter read 4.6 bias prior to test, reset before test began.	
84146	1988 Ford Ranger	74743	3500	10.2	10:46 a.m.	08/09/2004		
84148	1991 Dodge Dynasty	91324	3000	6.8	1:30 p.m.	08/09/2004		
84149	2002 Ford Escort SE	26748	3000	7.3	8:30 a.m.	08/10/2004		
84150	2000 Honda Odyssey	68979	4500	9.6	9:50 a.m.	08/10/2004		
84151	2000 Honda Accord	76178	3500	7.5	11:08 a.m.	08/10/2004		
84153	2000 Ford F150 PU	61040	4500	16.9	1:50 p.m.	08/10/2004	Tire/roller slippage at start of test. Drive trace violations. Real-time phase 1 HC pegged. Tailpipe fell off during soak, first 90 seconds of phase 3 lost. Phase 2 dilution temp over 50C.	x
84154	1979 Ford F150 PU	53503	3500	11.7	3:15 p.m.	08/10/2004		
84156	2000 Honda Accord	76191	3500	7.5	9:05 a.m.	08/11/2004	No tedlar bag data for phases 1 or 2.	
84157	1994 Nissan Sentra	127063	2750	7.1	10:55 a.m.	08/11/2004		
84160	2001 Ford Focus	52253	3000	7.3	8:22 a.m.	08/12/2004		
84161	1997 Volvo 850	65093	3500	6.0	9:30 a.m.	08/12/2004	Silicone boot used to connect exhaust to dilution tunnel began smoking at the end of phase 2.	x
84162	1983 Chrysler Lebaron	43291	2750	5.5	10:50 a.m.	08/12/2004		
84164	1999 Plymouth Voyager	74703	4000	6.6	1:35 p.m.	08/12/2004		
84165	1991 Mazda Protege	185576	2750	7.9	3:20 p.m.	08/12/2004		
84166	1994 Mercury Topaz	9950	3000	6.1	4:23 p.m.	08/12/2004		
84167	1999 Ford Ranger P/U	92926	3500	11.4	8:25 a.m.	08/13/2004		

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84168	996 Buick Regal Grand Spo	139861	3500	5.6	9:30 a.m.	08/13/2004	Vehicle stalled twice during phase 2.	
84169	1994 Mercury Topaz	9961	3000	6.1	11:00 a.m.	08/13/2004		
84171	1988 Honda Civic DX	205828	2250	6.4	1:22 p.m.	08/13/2004		
84172	1986 Cadillac Cimmaron	17610	3000	5.9	2:30 p.m.	08/13/2004		
84173	1996 Mercury Sable	110411	3500	6.9	8:15 a.m.	08/14/2004		
84174	1994 Mercury Topaz	32694	3000	6.1	9:30 a.m.	08/14/2004	Possible drive trace violation during phase 2 (driver switched at 700 seconds).	
84175	1988 Pontiac Bonneville	236760	3500	8.5	10:45 a.m.	08/14/2004		
84177	1988 Ford Taurus	13189	3500	4.0	1:54 p.m.	08/14/2004		
84178	1997 Toyota Camry	129432	3500	7.3	8:15 a.m.	08/16/2004	Braking violations during testing. Vehicle stalled at beginning of phase 1.	
84179	1998 Jeep Cherokee	82874	3500	11.8	9:30 a.m.	08/16/2004		
84180	1988 Pontiac Bonneville	236790	3500	8.5	10:42 a.m.	08/16/2004		
84182	1995 Ford Thunderbird	135049	4000	10.6	1:30 p.m.	08/16/2004		
84183	2000 Toyota Corolla	70126	2750	7.5	8:15 a.m.	08/17/2004		
84184	2000 Honda Civic	40410	2750	7.0	9:30 a.m.	08/17/2004	Braking violations during testing.	
84185	1996 Toyota Corolla	148865	2750	6.6	11:00 a.m.	08/17/2004		
84187	1988 Ford Taurus	13208	3500	4.0	8:10 a.m.	08/18/2004		
84188	1977 Chevy Monte Carlo	35553?35553	4000	11.6	9:30 a.m.	08/18/2004	Torque zero drifting, and phase 2 drive trace violations due to trace monitor failure.	x
84189	1984 Ford F150 Pickup	72318	3500	12.9	11:05 a.m.	08/18/2004	Braking violations during testing.	
84191	2000 Toyota Camry	47780	3500	7.3	8:15 a.m.	08/19/2004		
84192	2001 GMC Sonoma	60059	3500	11.3	9:34 a.m.	08/19/2004	Possible dilution due to exhaust leaks. Vehicle stalled during phase 2 (770 seconds). Realtime HC pegged for most of test.	x
84193	2001 Hyundai Sante Fe	70621	4000	8.7	11:00 a.m.	08/19/2004		
84195	1999 Chevy Lumina	42985	3500	5.4	1:57 p.m.	08/19/2004	Testsed at 3500 lb inertia instead of 4500 lb inertia specified for this engine code.	x
84196	1993 GMC Safari	283231	4000	12.5	3:20 p.m.	08/19/2004		
84197	1990 Buick Regal	103881	3000	6.8	8:33 a.m.	08/20/2004	Braking violations during testing.	
84198	1994 Saturn SL1	116791	2500	4.7	9:51 a.m.	08/20/2004		
84200	1994 Saturn SL1	116822	2500	4.7	8:07 a.m.	08/21/2004	Vehicle difficult to start at beginning of test.	
84201	1985 Chev S10	30305	3000	10.4	9:30 a.m.	08/21/2004		
84205	1998 Ford F150	98670	4500	13.3	9:23 a.m.	08/23/2004	No bag data for phases 1 and 2. Braking violations during testing.	
84206	1994 Chevy P/U	99225	4000	12.2	10:40 a.m.	08/23/2004		
84208	1989 Lincoln Towncar	82512	4000	12.7	1:20 p.m.	08/23/2004		
84209	1996 Dodge Stratus	126733	3000	7.5	8:23 a.m.	08/24/2004		
84210	1988 Mazda MX6	222715	3000	6.8	9:47 a.m.	08/24/2004		
84211	1986 Ford Tempo	60031	2500	6.9	11:03 a.m.	08/24/2004		
84213	1985 Olds Regency 98	188058	3500	7.9	1:44 p.m.	08/24/2004	Vehicle started approximately 20 seconds into Phase 1. Phase 3 torque baseline corrected due to drift during soak.	
84214	1994 Pontiac Bonneville	125226	3500	5.3	8:12 a.m.	08/25/2004		
84215	1992 Nissan Maxima	53987	3500	8.5	9:30 a.m.	08/25/2004	Phase 3 torque baseline corrected due to drift during soak.	
84216	1990 Ford F150 P/U	7131	4000	15.5	10:53 a.m.	08/25/2004		
84218	1988 Ford Taurus	13239	3500	4.0	2:00 p.m.	08/25/2004	Phase 2 dilution temp over 50C.	

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84219	1994 Chrysler Concorde	169018	3500	7.8	8:16 a.m.	08/26/2004		
84220	1992 Ford Escort	12788	2750	6.4	9:34 a.m.	08/26/2004		
84221	985 Ford LTD Crown Victori	100260	3500	9.3	11:00 a.m.	08/26/2004	Phase 2 dilution temp over 50C.	
84223	2005 Dodge Caravan	18159	4000	8.0	8:09 a.m.	08/27/2004		
84224	2002 Ford Taurus	72468	3500	6.5	9:27 a.m.	08/27/2004		
84225	2000 Honda Civic LX	35766	2750	7.0	10:35 a.m.	08/27/2004		
84227	1997 Buick Century	86430	3500	5.9	1:08 p.m.	08/27/2004		
84228	1992 Pontiac Grand Am	140191	3000	4.7	2:20 p.m.	08/27/2004	Vehicle stalled once during Phase 2.	
84229	2000 Olds Silhouette	85292	4000	11.5	8:55 a.m.	08/28/2004		
84230	1993 Nissan Sentra	87073	2500	6.2	10:11 a.m.	08/28/2004		
84231	1994 Olds Eighty Eight	128014	3500	6.5	11:28 a.m.	08/28/2004		
84233	1989 Toyota Corolla	181875	2500	5.9	2:05 p.m.	08/28/2004		
84234	1991 VW Cabriolet	63829	2750	8.0	8:11 a.m.	08/30/2004		
84235	1990 Geo Prizm	176712	2500	6.9	9:25 a.m.	08/30/2004	Bag 1 did not fill. Also, engine stalled at 10 seconds.	
84236	1992 Olds Achieva	177104	3000	4.9	10:47 a.m.	08/30/2004		
84238	1988 Pontiac 6000 Wagon	133737	3500	6.8	1:53 p.m.	08/30/2004	Possible dilution due to exhaust leak. Vehicle stalled twice during idle portion of test.	
84239	1987 Ford Taurus	33610	3000	6.9	3:10 p.m.	08/30/2004	Test stopped during Phase 2 at 1300 seconds.	x
84240	1998 Infiniti I30	50005	3500	6.4	8:26 a.m.	08/31/2004		
84241	1998 Ford Contour	118535	3000	4.8	9:43 a.m.	08/31/2004		
84242	1997 Plymouth Voyager	70430	3500	6.7	11:08 a.m.	08/31/2004		
84244	1992 Ford Escort	11345	2750	7.4	1:56 p.m.	08/31/2004		
84245	1987 Honda Accord	19268	2750	6.0	3:37 p.m.	08/31/2004		
84246	1994 Eagle Talon	109747	3500	10.6	8:14 a.m.	09/01/2004	Vehicle stalled 10 seconds into Phase 1.	
84248	1987 Ford Ranger	1705	3000	10.4	10:52 a.m.	09/01/2004	Possible braking violations.	
84250	1987 Ford Escort	78217	2500	7.4	1:16 p.m.	09/01/2004		
84252	2001 Ford Taurus	30917	3500	6.8	8:10 a.m.	09/02/2004		
84253	1997 Mercury Sable	104330	3500	8.0	9:27 a.m.	09/02/2004		
84256	1989 Chevy S10 P/U	174034	3000	10.4	1:22 p.m.	09/02/2004	Tire/roller slippage at start of test.	
84257	1983 Volvo GL	184224	3000	10.5	2:44 p.m.	09/02/2004		
84258	1991 Olds Delta 88	226269	3500	7.0	8:45 a.m.	09/08/2004	Invalid RH readings, corrected using airport data.	x
84259	1988 Ford Taurus	13250	3500	4.0	10:00 a.m.	09/08/2004		
84261	1989 Toyota Camry	269020	3500	7.7	8:17 a.m.	09/09/2004	Possible dilution due to exhaust leak. Possible trace violation due to clutch slippage.	
84262	1991 Olds Delta 88	227290	3500	7.0	9:30 a.m.	09/09/2004	Vehicle run at 3000 lbs for the first 700 seconds of this duplicate test.	x
84263	1989 Dodge Ram P/U	132325	3500	15.0	10:58 a.m.	09/09/2004		
84265	1984 Buick Century	1878	3000	7.3	1:30 p.m.	09/09/2004	Phase 2 dilution temp over 50C.	
84266	2000 Kia Sephia	58660	2750	6.3	8:13 a.m.	09/10/2004		
84267	1989 Chevrolet Cavalier	58439	2750	6.7	9:38 a.m.	09/10/2004		
84268	1994 Ford F150 P/U	169749	4500	12.9	10:50 a.m.	09/10/2004		
84270	1986 Mercury Grand Marqui:	36277	4000	10.7	1:21 p.m.	09/10/2004		
84271	1979 Buick LeSabre	37608	3500	10.5	2:55 p.m.	09/10/2004	Ignition switch stuck at beginning of Phase 3.	
84272	2001 Honda Accord	39702	3500	7.8	8:31 a.m.	09/11/2004		
84274	1995 Ford Aspire	188078	2250	6.1	10:00 a.m.	09/11/2004		
84276	1989 Buick Park Avenue	128607	3500	6.0	12:26 p.m.	09/11/2004		

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84277	1978 MG MGB	42926	2750	6.1	1:44 p.m.	09/11/2004		
84278	1990 GMC Jimmy	130254	3500	14.5	3:21 p.m.	09/11/2004	No bag data available.	
84279	2001 Toyota Camry 3.0L	61415	4000	7.0	8:42 a.m.	09/13/2004	Torque zero board dislodged for Phase 2 of test through end of test.	x
84280	1999 Ford Escort	74102	2750	4.9	10:00 a.m.	09/13/2004	Vehicle stalled 230 into Phase 1.	
84281	1995 Chevy Suburban	73848	5000	10.8	11:18 a.m.	09/13/2004	Braking violations during testing.	
84283	1986 Dodge P/U	47582	3500	12.8	1:50 p.m.	09/13/2004	Real-time HC pegged during Phase 1.	x
84284	1987 Chevy Caprice Wagon	29828	4500	9.6	3:30 p.m.	09/13/2004	Possible dilution due to exhaust leaks.	
84285	2000 Honda Civic	46677	2750	7.0	8:28 a.m.	09/14/2004		
84286	1997 Olds. Silhouette	111026	4000	10.1	9:30 a.m.	09/14/2004	Driving violations at start of Phase 3 due to automatic engagement of traction control. Vehicle restart during Phase 3 to reset.	
84287	1995 GMC Sierra P/U	171370	4000	12.2	10:59 a.m.	09/14/2004		
84289	1984 Olds Custom Cruiser Wagon	8983	4500	11.6	1:55 p.m.	09/14/2004	Phase 1 driving violations due to vehicle stalling. Possible dilution due to exhaust leaks, real-time HC saturation.	x
84290	1988 Ford Taurus	13266	3500	4.0	3:18 p.m.	09/14/2004		
84291	1997 Honda Civic	75783	2500	5.0	8:21 a.m.	09/15/2004		
84292	1997 Toyota Camry	127414	3500	7.3	9:30 a.m.	09/15/2004		
84293	1984 Volvo GL Wagon	299703	3000	10.7	10:53 a.m.	09/15/2004	Vehicle stalled during Phase 1.	
84295	1987 Chevy Caprice Classic	85915	4000	9.7	2:07 p.m.	09/15/2004	Vehicle stalled during Phase 1. Possible dilution due to exhaust leaks.	
84296	1998 Honda Civic	115370	2500	5.1	8:23 a.m.	09/16/2004	Possible high background concentration due to truck running outside building. Vehicle stalled during Phase 1. Ozonator air ran out during Phases 2 and 3, modal NOx invalid for these two phases.	x
84297	1996 Dodge Stratus	146579	3000	7.5	9:48 a.m.	09/16/2004		x
84298	1999 Dodge Durango	92681	5000	16.9	11:05 a.m.	09/16/2004		
84300	1990 Buick Lesabre	59413	3500	6.8	1:35 p.m.	09/16/2004		
84301	1989 Pontiac Grand Prix	149395	3500	4.5	3:00 p.m.	09/16/2004	Real-time HC pegged during Phase 1.	x
84302	1993 Ford F150 P/U	184984	4500	12.8	4:25 p.m.	09/16/2004	Braking violations during testing.	
84303	2002 Olds Silhouette	40271	4500	16.2	8:08 a.m.	09/17/2004	Traction control engaged 1st 40 seconds of bag 1.	
84304	2001 Honda Civic	49751	2750	8.0	9:25 a.m.	09/17/2004		
84305	1999 Chevy Malibu	76627	3500	5.8	10:43 a.m.	09/17/2004		
84307	1992 Honda Accord	74582	3000	5.7	1:20 p.m.	09/17/2004		
84308	1994 Pontiac Grand Am	101526	3000	5.4	2:30 p.m.	09/17/2004		
84309	1973 Mercedes 280 SE	81588	4000	11.4	3:55 p.m.	09/17/2004	Braking violations during testing.	
84310	2003 Chevy Venture	24915	4500	16.2	8:00 a.m.	09/18/2004		
84311	1989 Toyota Corolla	80749	2500	5.9	9:10 a.m.	09/18/2004		
84312	1994 Pontiac Grand Am	101538	3000	5.4	10:30 a.m.	09/18/2004		
84314	1989 Plymouth Sundance	144672	2750	6.9	1:00 p.m.	09/18/2004		
84315	1991 Plymouth Voyager	158771	3500	7.6	2:15 p.m.	09/18/2004	Possible dilution due to exhaust leaks.	
84316	1996 Dodge Avenger	124729	3000	4.4	3:38 p.m.	09/18/2004		
84317	2000 Nissan Altima	95313	3500	7.9	8:06 a.m.	08/21/2004		
84318	1997 Nissan Sentra	154255	2750	7.0	9:18 a.m.	08/21/2004		
84319	1998 Toyota Camry	127663	3500	6.4	10:38 a.m.	08/21/2004		
84321	1996 Toyota Avalon	108189	3500	6.2	1:21 p.m.	08/21/2004		
84322	1990 Toyota Camry	202804	3000	5.9	2:40 p.m.	09/21/2004		

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84323	2004 Kia Rio Cinco	6260	2750	6.7	8:00 a.m.	09/21/2004		
84324	1999 Toyota Camry	60286	3500	6.4	9:12 a.m.	09/21/2004		
84325	1998 Nissan Maxima	111655	3000	6.1	10:28 a.m.	09/21/2004		
84327	1998 Ford Taurus	77804	3500	5.0	12:47 p.m.	09/21/2004		
84328	1996 Toyota Avalon	108210	3500	6.2	1:57 p.m.	09/21/2004		
84329	1997 Jeep Wrangler	94832	3500	16.1	3:11 p.m.	09/21/2004		
84330	2004 Chevrolet Cavalier	8420	3000	3.9	8:08 a.m.	09/22/2004		
84332	1997 Pontiac Grand Am	57230	3000	3.8	10:35 a.m.	09/22/2004	HC2 not responding. Possible high background concentration due to smoke from under hood.	x x
84334	Chevrolet Caprice Estate W	72464	4500	9.6	1:01 p.m.	09/22/2004		
84335	1988 Mercury Grand Marquis	87717	4000	12.5	2:15 p.m.	09/22/2004		
84336	1987 Toyota P/U	225176	2750	9.6	3:34 p.m.	09/22/2004	Braking violations during testing.	
84337	2003 Ford Ranger P/U	11678	3500	4.1	8:10 a.m.	09/23/2004		
84338	2001 Saturn	63172	3000	6.4	9:24 a.m.	09/23/2004		
84339	999 Plymouth Grand Voyager	75489	4000	6.6	10:30 a.m.	09/23/2004		
84341	1997 Pontiac Grand Am	57260	3000	3.8	2:02 p.m.	09/23/2004		
84342	1994 Toyota Camry	128229	3500	7.2	3:14 p.m.	09/23/2004	Ozonator air ran out during test, modal NOx invalid for entire test.	x
84343	2004 Kia Sedona	6344	4000	6.8	8:20 a.m.	09/24/2004		
84344	2000 Toyota Sienna	131771	4000	6.5	9:43 a.m.	09/24/2004		
84345	1997 Chevrolet Lumina	133436	3500	5.3	10:55 a.m.	09/24/2004		
84347	1995 Toyota Corolla	106201	2500	6.0	1:16 p.m.	09/24/2004		
84348	1988 Ford Taurus	13303	3500	4.0	2:54 p.m.	09/24/2004		
84349	2003 Chevrolet Tracker	22365	3000	12.7	8:10 a.m.	09/25/2004		
84350	1997 Chevrolet Lumina	133465	3500	5.3	9:30 a.m.	09/25/2004		
84351	1996 Ford Contour	98572	3000	5.6	10:46 a.m.	09/25/2004		
84353	1993 Saturn Wagon	220839	3000	4.8	1:27 p.m.	09/25/2004		
84354	1989 Ford F150	61510	4000	15.3	2:52 p.m.	09/25/2004	Phase 2 dilution temp over 50C.	
84355	2001 Chevrolet Lumina	57829	3500	7.0	8:07 a.m.	09/27/2004		
84356	1997 Pontiac Grand Am	120921	3000	3.8	9:22 a.m.	09/27/2004	Possible dilution due to exhaust leak. Plug wires disconnected at 700 seconds, reconnected at first idle of phase 3.	
84357	1995 Mercury Tracer	146970	2750	4.5	10:52 a.m.	09/27/2004		
84359	1992 Toyota Corolla	84923	2750	8.6	1:22 p.m.	09/27/2004		
84360	1988 Ford Taurus	13323	3500	4.0	2:36 p.m.	09/27/2004		
84361	2002 Nissan Maxima	80356	3500	5.0	8:13 a.m.	09/28/2004		
84362	1998 Ford Taurus	91855	3500	5.0	9:29 a.m.	09/28/2004		
84363	1996 Toyota Corolla	288784	2750	6.6	10:44 a.m.	09/28/2004		
84365	1993 Ford Taurus	69365	3500	5.5	1:30 p.m.	09/28/2004		
84366	1989 Olds Cutlass Wagon	118187	3000	5.7	2:52 p.m.	09/28/2004		
84367	1980Mercedes 450 SEL	185888	4000	8.3	4:10 p.m.	09/28/2004		
84368	1997 Saturn SL	170227	2500	6.7	8:08 a.m.	09/29/2004		
84369	1996 Volvo 850 Wagon	81784	3500	7.3	9:33 a.m.	09/29/2004		
84370	1995 Ford Taurus	70394	3500	5.4	11:01 a.m.	09/29/2004		
84372	1994 Toyota Camry	88215	3500	7.2	1:40 p.m.	09/29/2004		
84373	1990 Chevrolet Astrovan	235476	4000	12.0	3:00 p.m.	09/29/2004		

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
84374	1988 Ford Taurus	13352	3500	4.0	5:00 p.m.	09/29/2004		
84375	2001 Ford Windstar	37923	4500	10.1	8:11 a.m.	09/30/2004		
84376	2000 Honda Odyssey	117948	4500	9.6	9:24 a.m.	09/30/2004		
84377	1997 Honda Accord	77801	3000	4.9	10:52 a.m.	09/30/2004		
84379	1998 Pontiac Grand Am	75722	3000	4.4	1:20 p.m.	09/30/2004		
84380	1995 Lincoln Continental	100959	4000	5.7	2:58 p.m.	09/30/2004		
84381	1994 Mercury Marquis	127784	4000	10.7	4:12 p.m.	09/30/2004		
84382	1999 VW Cabrio	38317	3000	6.9	8:15 a.m.	10/01/2004		
84383	1996 Toyota Camry	164875	3500	6.9	9:30 a.m.	10/01/2004		
84384	1996 Geo Prizm	169535	2750	7.0	10:50 a.m.	10/01/2004		
84386	1990 Nissan Maxima	258738	2750	5.8	1:10 p.m.	10/01/2004	Vehicle would not go into gear for first 2 minutes.	x
84387	1988 Ford Taurus	13370	3500	4.0	3:15 p.m.	10/01/2004		
84388	2001 Toyota Camry	na	3000	6.7	11:30 a.m.	10/02/2004	Disregard, test is for PEMS flowmeter evaluation.	
84389	2001 Toyota Camry	na	3000	6.7	12:30 p.m.	10/02/2004	Disregard, test is for PEMS flowmeter evaluation.	
84390	2001 Toyota Camry	na	3000	6.7	1:30 p.m.	10/02/2004	Disregard, test is for PEMS flowmeter evaluation.	
84391	2001 Toyota Camry	na	3000	6.7	2:45 p.m.	10/02/2004	Disregard, test is for PEMS flowmeter evaluation.	
84392	na	na	na	na	4:00 p.m.	10/02/2004	Disregard, dilution tunnel injections.	

Run #	Veh Yr, Make, Model	Odometer	Inertia	Hp@50mph	Time	Date	Dyne Test Issues	Suspect Data
-------	---------------------	----------	---------	----------	------	------	------------------	--------------