

Kansas City PM Characterization Study

Final Report

Appendix T

Round 2 Conditioning Run

Quality Control

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

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_453_1	3.5	3.1 to 3.5	HONDA	ODYSSEY	2002	4/4/2005							
C_KS2_462_1	3.5	3.1 to 3.5	KIA	SEDONA	2004	4/5/2005							
C_KS2_484_1	3.8	3.5 to 4.0	CHRYSLER	TOWN & CC	2002	2/22/2005							
C_KS2_491_1	3.5	3.1 to 3.5	HONDA	ODYSSEY	2003	4/5/2005							
C_KS2_495_1	4	3.5 to 4.0	JEEP	CHEROKEE	2001	4/4/2005							
C_KS2_511_1	3	2.6 to 3.0	TOYOTA	SIENNA LE	2001	4/2/2005							
C_KS2_518_1	3.3	3.1 to 3.5	DODGE	GRAND CAF	2002	4/2/2005							
C_KS2_521_1	3.8	3.5 to 4.0	MITSUBISHI	MONTERO	2003	2/7/2005			x				Suspect dilution: Avg CO + CO2 = 10.1%
C_KS2_530_1	1.9	1.6 to 2.0	FORD	ESCORT LX	1995	1/11/2005							
C_KS2_531_1	3.5	3.1 to 3.5	CHEVROLET	SILVERADC	1976	1/11/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_532_1	3.5	3.1 to 3.5	CHRYSLER	300M	1999	1/11/2005							
C_KS2_533_1	3.5	3.1 to 3.5	HONDA	ODYSSEY	2000	1/11/2005							
C_KS2_534_1	2.2	2.1 to 2.5	HONDA	ACCORD	1997	1/12/2005							
C_KS2_537_1	3.3	3.1 to 3.5	PLYMOUTH	VOYAGER	1998	1/12/2005							
C_KS2_538_1	2.3	2.1 to 2.5	HONDA	ACCORD	2001	1/12/2005							
C_KS2_539_1	1.5	0 to 1.6	HONDA	CIVIC	1991	1/12/2005							
C_KS2_540_1	1.6	1.6 to 2.0	TOYOTA	COROLLA	1995	1/13/2005							
C_KS2_541_1	3.3	3.1 to 3.5	DODGE	CARAVAN	1997	1/13/2005							
C_KS2_542_1	2.3	2.1 to 2.5	PONTIAC	GRAND AM	1989	1/13/2005							
C_KS2_543_1	3	2.6 to 3.0	DODGE	CARAVAN	2000	1/13/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_544_1	3	2.6 to 3.0	MERCURY	SABLE	2002	1/14/2005							
C_KS2_545_1	5.7	5.1 to 6.0	FORD	F250	1979	1/14/2005							
C_KS2_546_1	3.1	3.1 to 3.5	CHEVROLET	MALIBU	1999	1/14/2005							
C_KS2_547_1	1.6	1.6 to 2.0	HONDA	CIVIC	1996	1/14/2005							
C_KS2_548_1	1.9	1.6 to 2.0	SATURN	NULL	1996	1/14/2005							
C_KS2_549_1	3.1	3.1 to 3.5	CHEVROLET	LUMINA	1998	1/15/2005							
C_KS2_550_1	2.4	2.1 to 2.5	PONTIAC	GRAND AM	1997	1/15/2005							aux temp erroneous (215C), not a data issue
C_KS2_551_1	3.8	3.5 to 4.0	CHEVROLET	IMPALA	2003	1/15/2005							
C_KS2_552_1	5.9	5.1 to 6.0	DODGE	DURANGO	1999	1/15/2005		x		x		x	Exhaust temp is 20% lower and exhaust flow is 40% higher than similar displacement vehicles
C_KS2_553_1	1.6	1.6 to 2.0	HONDA	CIVIC	1998	1/15/2005							
C_KS2_555_1	4	3.5 to 4.0	JEEP	GRAND CHI	1995	1/17/2005							
C_KS2_556_1	2.3	2.1 to 2.5	HONDA	ACCORD	2000	1/17/2005							
C_KS2_557_1	4	3.5 to 4.0	FORD	EXPLORER	1995	1/17/2005							
C_KS2_558_1	2.2	2.1 to 2.5	SATURN	LS1	2000	1/17/2005							
C_KS2_559_1	4	3.5 to 4.0	JEEP	CHEROKEE	1998	1/17/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_562_1	3.1	3.1 to 3.5	CHEVROLET	MALIBU	1998	1/18/2005							
C_KS2_563_1	2.5	2.1 to 2.5	DODGE	SPIRIT	1990	1/18/2005							
C_KS2_564_1	1.9	1.6 to 2.0	SATURN	SC2	2001	1/18/2005							
C_KS2_565_1	2.4	2.1 to 2.5	MITSUBISHI	GALANT	2001	1/18/2005							
C_KS2_566_1	5	4.1 to 5.0	MERCURY	GRAND MAI	1991	1/18/2005			x	x		x	Suspect dilution: Avg CO + CO2 = 7.8%, avg exhaust temp (100C) is 60% lower than similar displacement vehicles.
C_KS2_567_1	4	3.5 to 4.0	JEEP	WRANGLER	1997	1/19/2005							
C_KS2_567_2	4	3.5 to 4.0	JEEP	WRANGLER	1997	1/19/2005			x				Suspect dilution: Avg CO + CO2 = 9.5%
C_KS2_567_3	4	3.5 to 4.0	JEEP	WRANGLER	1997	1/19/2005			x				Suspect dilution: Avg CO + CO2 = 9.6%
C_KS2_568_1	3	2.6 to 3.0	TOYOTA	CAMRY	1994	1/20/2005							
C_KS2_569_1	4.3	4.1 to 5.0	CHEVROLET	S-10	1995	1/19/2005							
C_KS2_570_1	1.9	1.6 to 2.0	SATURN	SEDAN	1999	1/19/2005							
C_KS2_571_1	3.8	3.5 to 4.0	BUICK	PARK AVEN	1995	1/19/2005			x	x			Suspect dilution: Avg CO + CO2 = 10.9%, avg exhaust temp (130C) is 40% lower than similar displacement vehicles.
C_KS2_572_1	5.3	5.1 to 6.0	CHEVROLET	SILVERADC	2002	1/20/2005			x				Suspect dilution: Avg CO + CO2 = 10.9%
C_KS2_574_1	3.1	3.1 to 3.5	BUICK	CENTURY	2001	1/20/2005							
C_KS2_575_1	4.6	4.1 to 5.0	FORD	F150	2001	1/20/2005			x				Suspect dilution: Avg CO + CO2 = 10.8%
C_KS2_576_1	1.6	1.6 to 2.0	GEO	PRIZM	1991	1/20/2005							
C_KS2_577_1	3.8	3.5 to 4.0	PONTIAC	BONNEVILL	1995	1/20/2005				x			Avg exhaust temp (130C) is 40% lower than similar displacement vehicles.
C_KS2_579_1	3	2.6 to 3.0	TOYOTA	SIENNA	2000	1/21/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_580_1	3.8	3.5 to 4.0	PLYMOUTH	VOYAGER	1999	1/21/2005							
C_KS2_581_1	2.2	2.1 to 2.5	SATURN	SEDAN	2001	1/21/2005							

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_582_1	2.5	2.1 to 2.5	CHEVROLET	TRACKER	2003	1/21/2005							
C_KS2_583_1	3.1	3.1 to 3.5	BUICK	REGAL	1994	1/22/2005				X			Avg exhaust temp (130C) is 50% lower than similar displacement vehicles.
C_KS2_583_2	3.1	3.1 to 3.5	BUICK	REGAL	1994	1/21/2005				X			Avg exhaust temp (130C) is 50% lower than similar displacement vehicles.
C_KS2_584_1	3	2.6 to 3.0	NISSAN	MAXIMA	1995	1/22/2005							
C_KS2_585_1	3	2.6 to 3.0	FORD	TAURUS	1995	1/22/2005							
C_KS2_586_1	3.1	3.1 to 3.5	PONTIAC	GRAND PRI	1993	1/22/2005		X				X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_593_1	3	2.6 to 3.0	FORD	AEROSTAR	1993	1/25/2005			X				Suspect dilution: Avg CO + CO2 = 10.9%
C_KS2_594_1	3	2.6 to 3.0	PLYMOUTH	VOYAGER	1989	1/25/2005				X			avg exhaust temp (130C) is 40% lower than similar displacement vehicles.
C_KS2_595_1	2.3	2.1 to 2.5	FORD	RANGER	1988	1/26/2005							
C_KS2_596_1	4.6	4.1 to 5.0	FORD	CROWN VIC	1995	1/25/2005				X			Avg exhaust temp (100C) is 60% lower than similar displacement vehicles.
C_KS2_597_1	3	2.6 to 3.0	FORD	AEROSTAR	1992	1/25/2005							
C_KS2_599_1	3.8	3.5 to 4.0	CHEVROLET	LUMINA LS	1994	1/27/2005							
C_KS2_599_2	3.8	3.5 to 4.0	CHEVROLET	LUMINA LS	1994	1/26/2005							Aux temp suspect (41C), not a data issue
C_KS2_600_1	2	1.6 to 2.0	FORD	CONTOUR	1995	1/26/2005							Aux temp erroneous (190C), not a data issue
C_KS2_602_1	3.3	3.1 to 3.5	DODGE	INTREPID	1994	1/26/2005		X		X		X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, avg exhaust temp (110C) is 50% lower than similar displacement vehicles.
C_KS2_605_1	3	2.6 to 3.0	DODGE	CARAVAN	1989	1/27/2005							
C_KS2_606_1	5	4.1 to 5.0	CHEVROLET	SILVERADO	1996	1/27/2005		X				X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_607_1	2.3	2.1 to 2.5	FORD	TEMPO	1986	1/28/2005							
C_KS2_608_1	4.5	4.1 to 5.0	M.BENZ	280 SE	1973	1/27/2005			X				Suspect dilution: Avg CO + CO2 = 9.7%
C_KS2_609_1	5	4.1 to 5.0	CHEVROLET	MONTE CARLO	1977	1/27/2005							
C_KS2_611_1	4	3.5 to 4.0	FORD	EXPLORER	1996	1/28/2005							
C_KS2_612_1	2	1.6 to 2.0	DODGE	RAM	1989	1/28/2005							
C_KS2_614_1	1.5	0 to 1.6	HONDA	CIVIC	1988	1/28/2005							
C_KS2_616_1	4	3.5 to 4.0	JEEP	CHEROKEE	1998	1/29/2005		X				X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_617_1	2	1.6 to 2.0	DODGE	NEON	1996	1/29/2005							
C_KS2_618_1	4.9	4.1 to 5.0	BUICK	LASABRE	1979	1/29/2005				X			Avg exhaust temp (100C) is 60% lower than similar displacement vehicles.
C_KS2_619_1	3.3	3.1 to 3.5	DODGE	CARAVAN	1996	1/29/2005		X				X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_622_1	2.1	2.1 to 2.5	MAZDA	B2200	1992	1/31/2005							
C_KS2_623_1	4.9	4.1 to 5.0	CADILLAC	FLEETWOOD	1991	2/1/2005							
C_KS2_623_2	4.9	4.1 to 5.0	CADILLAC	FLEETWOOD	1991	1/31/2005						X	Ambient temp erroneous (avg of -40C)
C_KS2_624_1	2.3	2.1 to 2.5	FORD	RANGER	1990	1/31/2005							
C_KS2_624_2	2.3	2.1 to 2.5	FORD	RANGER	1990	1/31/2005							
C_KS2_625_1	4.2	4.1 to 5.0	BUICK	RAINER	2004	2/2/2005		X		X		X	Avg exhaust temp (200C) is 30% lower than similar displacement vehicles, avg exhaust flow is 30% higher than similar displacement vehicles.
C_KS2_626_1	2.4	2.1 to 2.5	TOYOTA	TRUCK	1987	2/2/2005			X	X			Suspect dilution: Avg CO + CO2 = 8.4%, avg exhaust temp (410C) is 70% higher than similar displacement vehicle.
C_KS2_627_1	3.8	3.5 to 4.0	BUICK	LESABRE	1995	2/2/2005							
C_KS2_627_2	3.8	3.5 to 4.0	BUICK	LESABRE	1995	2/2/2005							
C_KS2_627_3	3.8	3.5 to 4.0	BUICK	LESABRE	1995	2/1/2005				X			Avg exhaust temp (120C) is 50% lower than similar displacement vehicles.
C_KS2_628_1	5	4.1 to 5.0	CHEVROLET	C10 SILVERADO	1984	2/1/2005		X				X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_631_1	2.3	2.1 to 2.5	FORD	RANGER XL	1997	2/2/2005							
C_KS2_632_1	2.2	2.1 to 2.5	GMC	SONOMA	1996	2/2/2005							
C_KS2_633_1	4.2	4.1 to 5.0	FORD	FREESTAR	2004	2/2/2005							
C_KS2_634_1	3	2.6 to 3.0	TOYOTA	4RUNNER S	1995	2/2/2005		X			X	X	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, ambient temp suspect (avg T of -40C)
C_KS2_635_1	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1995	2/2/2005							
C_KS2_638_1	3	2.6 to 3.0	TOYOTA	SIENNA XLE	2001	2/3/2005							
C_KS2_639_1	1.8	1.6 to 2.0	ACURA	INTEGRA	1995	2/3/2005							
C_KS2_640_1	2.4	2.1 to 2.5	NISSAN	FRONTIER	1998	2/3/2005							
C_KS2_641_1	3.5	3.1 to 3.5	CHRYSLER	CONCORD	1996	2/3/2005							
C_KS2_642_1	3	2.6 to 3.0	FORD	TAURUS	2002	2/4/2005							
C_KS2_643_1	3.2	3.1 to 3.5	CHRYSLER	CONCORD II	2000	2/4/2005				X		X	Avg exhaust temp (90C) is 60% lower than similar displacement vehicles.
C_KS2_644_1	3.3	3.1 to 3.5	DODGE	INTREPID	1993	2/4/2005							
C_KS2_644_2	3.3	3.1 to 3.5	DODGE	INTREPID	1993	2/4/2005							
C_KS2_645_1	5	4.1 to 5.0	FORD	F150	1989	2/4/2005				X		X	Avg exhaust temp (510C) is 80% higher than similar displacement vehicles.
C_KS2_646_1	4.3	4.1 to 5.0	CHEVROLET	ASTROVAN	1992	2/5/2005				X			Avg exhaust temp (130C) is 50% lower than similar displacement vehicles.

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_647_1	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1994	2/5/2005							
C_KS2_648_1	5.4	5.1 to 6.0	FORD	F150	2001	2/5/2005							
C_KS2_649_1	1.5	0 to 1.6	HONDA	CIVIC	1992	2/5/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_651_1	4.4	4.1 to 5.0	CHEVROLET	CAPRICE	1982	2/6/2005			x				Suspect dilution: Avg CO + CO2 = 11.0%
C_KS2_653_1	3.5	3.1 to 3.5	CHRYSLER	CONCORDE	2002	2/7/2005							
C_KS2_654_1	3.1	3.1 to 3.5	BUICK	SKYLARK	1994	2/7/2005							
C_KS2_655_1	4.3	4.1 to 5.0	CHEVROLET	ASTRO VAN	1993	2/8/2005							
C_KS2_656_1	3	2.6 to 3.0	DODGE	CARAVAN	1992	2/7/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles. avg exhaust temp (130C) is 40% lower than similar displacement vehicles.
C_KS2_660_1	3.3	3.1 to 3.5	DODGE	GRAND CAF	1998	2/7/2005			x			x	Suspect dilution: Avg CO + CO2 = .01% (no sampling)
C_KS2_661_1	4.6	4.1 to 5.0	LINCOLN	TOWNCAR	1991	2/10/2005							
C_KS2_662_1	2.3	2.1 to 2.5	ISUZU	PICKUP	1995	2/8/2005							
C_KS2_663_1	3	2.6 to 3.0	FORD	TAURUS	2001	2/8/2005							
C_KS2_664_1	2.2	2.1 to 2.5	HONDA	ACCORD	1997	2/9/2005							
C_KS2_665_1	3	2.6 to 3.0	DODGE	GRAND CAF	2003	4/2/2005							
C_KS2_667_1	4.3	4.1 to 5.0	CHEVROLET	C1500	1996	2/8/2005							
C_KS2_668_1	5.9	5.1 to 6.0	DODGE	RAM PU	1995	2/9/2005					x	x	Erroneous ambient temp (average of 53C)
C_KS2_670_1	1.6	1.6 to 2.0	GEO	TRACKER	1992	2/9/2005							
C_KS2_671_1	2.5	2.1 to 2.5	PLYMOUTH	SUNDANCE	1992	2/9/2005							
C_KS2_674_1	2	1.6 to 2.0	HONDA	CRV	1998	2/10/2005		x				x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_675_1	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1999	2/10/2005							
C_KS2_676_1	2.2	2.1 to 2.5	SUBARU	LEGACY W/	1993	2/10/2005							
C_KS2_677_1	3.4	3.1 to 3.5	PONTIAC	MONTANA	2003	2/10/2005							
C_KS2_677_2	3.4	3.1 to 3.5	PONTIAC	MONTANA	2003	2/10/2005							
C_KS2_679_1	4	3.5 to 4.0	FORD	RANGER	1998	2/11/2005							
C_KS2_680_1	5.7	5.1 to 6.0	CHEVROLET	TAHOE	1996	2/11/2005							
C_KS2_681_1	3.3	3.1 to 3.5	DODGE	GRAND CAF	1996	2/12/2005							
C_KS2_681_2	3.3	3.1 to 3.5	DODGE	GRAND CAF	1996	2/11/2005							
C_KS2_681_3	3.3	3.1 to 3.5	DODGE	GRAND CAF	1996	2/11/2005		x				x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles
C_KS2_682_1	4	3.5 to 4.0	JEEP	CHEROKEE	2000	2/12/2005							
C_KS2_682_2	4	3.5 to 4.0	JEEP	CHEROKEE	2000	2/11/2005							
C_KS2_685_1	3.9	3.5 to 4.0	DODGE	DAKOTA	1999	2/14/2005							
C_KS2_686_1	1.8	1.6 to 2.0	TOYOTA	COROLLA	1995	2/14/2005			x				Suspect dilution: Avg CO + CO2 = 10.8%
C_KS2_689_1	5	4.1 to 5.0	LINCOLN	TOWN CAR	1988	2/14/2005			x				Suspect dilution: Avg CO + CO2 = 10.0%
C_KS2_689_2	5	4.1 to 5.0	LINCOLN	TOWN CAR	1988	2/14/2005	x					x	Test record has missing or invalid data
C_KS2_693_1	3.5	3.1 to 3.5	ISUZU	AXIOM	2002	2/15/2005							
C_KS2_694_1	3.4	3.1 to 3.5	OLDS	SILHOUTTE	2002	2/15/2005							
C_KS2_695_1	4.9	4.1 to 5.0	FORD	F150	1992	2/15/2005			x				Suspect dilution: Avg CO + CO2 = 10.7%
C_KS2_698_1	3.3	3.1 to 3.5	CHRYSLER	TOWN & CC	2001	2/16/2005							
C_KS2_700_1	3.8	3.5 to 4.0	BUICK	PARK AVEN	2000	2/16/2005							
C_KS2_701_1	3.9	3.5 to 4.0	DODGE	DAKOTA	1998	2/16/2005			x				Suspect dilution: Avg CO + CO2 = 10.7%
C_KS2_702_1	4.3	4.1 to 5.0	CHEVROLET	S-10	2001	2/16/2005							
C_KS2_703_1	5	4.1 to 5.0	FORD	COUNTRY S	1986	2/16/2005			x				Suspect dilution: Avg CO + CO2 = 9.1%
C_KS2_704_1	4.9	4.1 to 5.0	CADILLAC	SEDAN DEV	1992	2/17/2005							
C_KS2_705_1	3.7	3.5 to 4.0	DODGE	DAKOTA	2004	2/17/2005							
C_KS2_706_1	2.2	2.1 to 2.5	HONDA	ODYSSEY	1995	2/17/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, avg exhaust temp (130C) is 50% lower than similar displacement vehicles.
C_KS2_707_1	3.3	3.1 to 3.5	DODGE	GRAND CAF	1998	2/17/2005			x				Suspect dilution: Avg CO + CO2 = 10.4%
C_KS2_709_1	4	3.5 to 4.0	FORD	RANGER	2002	2/17/2005		x		x		x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles, no exhaust temp measured
C_KS2_709_2	4	3.5 to 4.0	FORD	RANGER	2002	2/17/2005					x	x	Ambient temp erroneous (avg of -38C)
C_KS2_711_1	2.3	2.1 to 2.5	MERCURY	TOPAZ	1994	2/18/2005							
C_KS2_712_1	2.3	2.1 to 2.5	FORD	RANGER	1996	2/18/2005							
C_KS2_713_1	2.2	2.1 to 2.5	FORD	TAURUS	1995	2/18/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, avg exhaust temp (110C) is 60% lower than similar displacement vehicles.
C_KS2_715_1	5.7	5.1 to 6.0	CHEVROLET	SILVERADO	1994	2/19/2005							

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_780_1	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1997	3/5/2005							
C_KS2_782_1	3.3	3.1 to 3.5	PLYMOUTH	VOYAGER	1999	3/5/2005							
C_KS2_782_2	3.3	3.1 to 3.5	PLYMOUTH	VOYAGER	1999	3/5/2005							
C_KS2_783_1	2.5	2.1 to 2.5	PLYMOUTH	VOYAGER	1992	3/5/2005							
C_KS2_784_1	2.3	2.1 to 2.5	FORD	RANGER XL	1992	3/5/2005							
C_KS2_785_1	3	2.6 to 3.0	FORD	RANGER	1992	3/5/2005			x	x			Suspect dilution: Avg CO + CO2 = 10.5%, avg exhaust temp (130C) is 40% lower than similar displacement vehicles.
C_KS2_787_1	1.3	0 to 1.6	VW	BEETLE	1973	3/7/2005				x		x	Avg exhaust temp (350C) is 100% higher than similar displacement vehicles
C_KS2_788_1	2.5	2.1 to 2.5	PLYMOUTH	ACCLAIM	1989	3/7/2005			x			x	Suspect dilution: Avg CO + CO2 = 7.1%
C_KS2_788_2	2.5	2.1 to 2.5	PLYMOUTH	ACCLAIM	1989	3/7/2005			x			x	Suspect dilution: Avg CO + CO2 = 7.1%
C_KS2_788_3	2.5	2.1 to 2.5	PLYMOUTH	ACCLAIM	1989	3/8/2005			x	x		x	Suspect dilution: Avg CO + CO2 = 0 % (no sampling), avg exhaust temp (100C) is 60% lower than similar displacement vehicles.
C_KS2_789_1	3.7	3.5 to 4.0	DODGE	RAM PICKU	1987	3/7/2005							
C_KS2_791_1	2.2	2.1 to 2.5	TOYOTA	CAMRY	1999	3/7/2005							
C_KS2_792_1	4.2	4.1 to 5.0	CHEVROLET	TRAIL BLAZ	2002	3/8/2005							
C_KS2_795_1	5	4.1 to 5.0	FORD	CROWN VIC	1989	3/9/2005							
C_KS2_796_1	2	1.6 to 2.0	HONDA	ACCORD SE	1989	3/8/2005			x				Suspect dilution: Avg CO + CO2 = 10.5%
C_KS2_797_1	2.5	2.1 to 2.5	ACURA	2.5 TL	1996	3/8/2005							
C_KS2_800_1	3.3	3.1 to 3.5	OLDSMOBILE	CUTLASS	1990	3/14/2005							
C_KS2_801_1	3	2.6 to 3.0	PLYMOUTH	VOYAGER S	1988	3/9/2005							
C_KS2_802_1	2.3	2.1 to 2.5	VOLVO	740 TURBO	1987	3/9/2005				x			avg exhaust temp (140C) is 40% lower than similar displacement vehicles.
C_KS2_805_1	2.2	2.1 to 2.5	CHEVROLET	CAVALIER	1995	3/10/2005	x					x	Test record has missing or invalid data
C_KS2_805_2	2.2	2.1 to 2.5	CHEVROLET	CAVALIER	1995	3/10/2005							
C_KS2_806_1	2.5	2.1 to 2.5	DODGE	SPIRIT	1989	3/10/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, avg exhaust temp (130C) is 50% lower than similar displacement vehicles.
C_KS2_807_1	1.9	1.6 to 2.0	FORD	ESCORT	1987	3/10/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles, avg exhaust temp (130C) is 30% lower than similar displacement vehicles.
C_KS2_808_1	4	3.5 to 4.0	FORD	EXPLORER	1994	3/10/2005							
C_KS2_809_1	3.5	3.1 to 3.5	NISSAN	PATHFINDE	2001	3/11/2005							
C_KS2_809_2	3.5	3.1 to 3.5	NISSAN	PATHFINDE	2001	3/12/2005		x		x		x	Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_811_1	3.9	3.5 to 4.0	DODGE	SE DAKOTA	1987	3/11/2005			x	x			Suspect dilution: Avg CO + CO2 = 10.0%, avg exhaust temp (410C) is 80% higher than similar displacement vehicles.
C_KS2_813_1	2	1.6 to 2.0	HONDA	ACCORD LX	1988	3/11/2005							
C_KS2_815_1	4.3	4.1 to 5.0	GMC	SONOMA	1995	3/12/2005							
C_KS2_816_1	2.2	2.1 to 2.5	NISSAN	PICKUP	1988	3/14/2005			x				Suspect dilution: Avg CO + CO2 = 9.6%
C_KS2_818_1	3.1	3.1 to 3.5	CHEVROLET	LUMINA AP	1990	3/12/2005							
C_KS2_820_1	3.8	3.5 to 4.0	BUICK	PARK AVEN	1990	3/14/2005							
C_KS2_821_1	2.5	2.1 to 2.5	CHRYSLER	LEBARON	1988	3/16/2005		x				x	No exhaust flow measured
C_KS2_821_2	2.5	2.1 to 2.5	CHRYSLER	LEBARON	1988	3/16/2005							
C_KS2_822_1	4.5	4.1 to 5.0	CADILLAC	ELDORADO	1990	3/15/2005							
C_KS2_823_1	3.1	3.1 to 3.5	CHEVROLET	LUMINA	1990	3/14/2005			x				Suspect dilution: Avg CO + CO2 = 10.8%
C_KS2_824_1	4.3	4.1 to 5.0	CHEVROLET	ASTROVAN	1989	3/14/2005							
C_KS2_825_1	3	2.6 to 3.0	DODGE	CARAVAN S	1988	3/14/2005							
C_KS2_826_1	5.3	5.1 to 6.0	FORD	F250 PICKU	1982	3/15/2005							
C_KS2_826_2	5.3	5.1 to 6.0	FORD	F250 PICKU	1982	3/15/2005							
C_KS2_827_1	3.3	3.1 to 3.5	BUICK	CENTURY	1990	3/15/2005							
C_KS2_827_2	3.3	3.1 to 3.5	BUICK	CENTURY	1990	3/15/2005	x					x	Test record has missing or invalid data
C_KS2_828_1	5	4.1 to 5.0	FORD	F-150	1988	3/15/2005			x				Suspect dilution: Avg CO + CO2 = 10.1%
C_KS2_829_1	3	2.6 to 3.0	TOYOTA	PICKUP	1989	3/15/2005	x					x	Test record has missing or invalid data
C_KS2_829_2	3	2.6 to 3.0	TOYOTA	PICKUP	1989	3/15/2005				x			avg exhaust temp (380C) is 70% higher than similar displacement vehicles.
C_KS2_829_3	3	2.6 to 3.0	TOYOTA	PICKUP	1989	3/15/2005		x		x		x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles, avg exhaust temp (40C) is 80% lower than similar displacement vehicles.
C_KS2_830_1	2	1.6 to 2.0	CHEVROLET	CORSICA	1989	3/15/2005							
C_KS2_833_1	2.3	2.1 to 2.5	MERCURY	TOPAZ	1989	3/16/2005							
C_KS2_834_1	1.6	1.6 to 2.0	TOYOTA	TERCEL SR	1983	3/16/2005			x				Suspect dilution: Avg CO + CO2 = 9.5%
C_KS2_835_1	2.5	2.1 to 2.5	DODGE	SPIRIT	1990	3/16/2005							
C_KS2_836_1	2	1.6 to 2.0	HONDA	ACCORD	1988	3/29/2005							
C_KS2_836_2	2	1.6 to 2.0	HONDA	ACCORD	1988	3/30/2005	x					x	Test record has missing or invalid data

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_837_1	6.6	> 6.0	PONTIAC	FIREBIRD	1979	3/16/2005							
C_KS2_838_1	3.8	3.5 to 4.0	OLDSMOBILE	DELTA 88	1991	3/17/2005							
C_KS2_839_1	5	4.1 to 5.0	GMC	VANDURA	1983	3/16/2005				x			Avg exhaust temp (470C) is 70% higher than similar displacement vehicles.
C_KS2_840_1	5	4.1 to 5.0	FORD	BRONCO	1990	3/17/2005				x			Avg exhaust temp (470C) is 70% higher than similar displacement vehicles.
C_KS2_842_1	2.2	2.1 to 2.5	TOYOTA	PICKUP	1983	3/17/2005							
C_KS2_844_1	5	4.1 to 5.0	CADILLAC	FLEETWOO	1989	3/17/2005		x	x			x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles, Suspect dilution: Avg CO + CO2 = 10.8%
C_KS2_846_1	5	4.1 to 5.0	CHEVROLET	CHEYENNE	1973	3/17/2005		x				x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles
C_KS2_846_2	5	4.1 to 5.0	CHEVROLET	CHEYENNE	1973	3/17/2005			x			x	Suspect dilution: Avg CO + CO2 = 7.1%
C_KS2_848_1	5.7	5.1 to 6.0	CHEVROLET	EL CAMINO	1976	3/18/2005							
C_KS2_849_1	4.9	4.1 to 5.0	FORD	F-150	1986	3/18/2005			x				Suspect dilution: Avg CO + CO2 = 10.7%
C_KS2_850_1	2.9	2.6 to 3.0	FORD	RANGER	1990	3/19/2005							
C_KS2_851_1	4.9	4.1 to 5.0	FORD	F-150	1988	3/18/2005			x				Suspect dilution: Avg CO + CO2 = 9.0%
C_KS2_855_1	2.5	2.1 to 2.5	TOYOTA	CAMRY	1990	3/18/2005			x				Suspect dilution: Avg CO + CO2 = 10.5%
C_KS2_856_1	2.8	2.6 to 3.0	OLDSMOBILE	CUTLASS	1989	3/21/2005							
C_KS2_856_2	2.8	2.6 to 3.0	OLDSMOBILE	CUTLASS	1989	3/19/2005							
C_KS2_857_1	4.1	4.1 to 5.0	CHEVROLET	C-10	1983	3/19/2005							
C_KS2_858_1	5	4.1 to 5.0	FORD	F-150	1988	3/19/2005			x				Suspect dilution: Avg CO + CO2 = 9.9%
C_KS2_859_1	2.8	2.6 to 3.0	BUICK	CENTURY	1988	3/19/2005							
C_KS2_862_1	4.3	4.1 to 5.0	GMC	JIMMY	1992	3/19/2005							
C_KS2_862_2	4.3	4.1 to 5.0	GMC	JIMMY	1992	3/19/2005	x					x	Test record has missing or invalid data
C_KS2_866_1	5	4.1 to 5.0	CHEVROLET	CAPRICE	1985	3/21/2005							
C_KS2_867_1	6.5	> 6.0	FORD	F-150	1978	3/21/2005							
C_KS2_868_1	2.4	2.1 to 2.5	TOYOTA	PICKUP 4X4	1987	3/21/2005			x				Suspect dilution: Avg CO + CO2 = 10.2%
C_KS2_870_1	5	4.1 to 5.0	OLDSMOBILE	CUTLASS S	1987	4/7/2005			x				Suspect dilution: Avg CO + CO2 = 9.8%
C_KS2_870_2	5	4.1 to 5.0	OLDSMOBILE	CUTLASS S	1987	4/7/2005							
C_KS2_871_1	4.1	4.1 to 5.0	CHEVROLET	NOVA	1976	3/22/2005							
C_KS2_872_1	5.7	5.1 to 6.0	CHEVROLET	IMPALA	1973	3/22/2005				x			Avg exhaust temp (490C) is 70% higher than similar displacement vehicles.
C_KS2_873_1	4.9	4.1 to 5.0	FORD	F-150	1990	3/23/2005			x				Suspect dilution: Avg CO + CO2 = 9.0%
C_KS2_875_1	3.8	3.5 to 4.0	CHEVROLET	MALIBU	1980	3/22/2005							
C_KS2_876_1	5.7	5.1 to 6.0	CHEVROLET	G20 VAN	1989	3/22/2005			x				Suspect dilution: Avg CO + CO2 = 11.0%
C_KS2_876_2	5.7	5.1 to 6.0	CHEVROLET	G20 VAN	1989	3/22/2005							
C_KS2_877_1	2.8	2.6 to 3.0	CHEVROLET	BLAZER 4X4	1987	3/22/2005							
C_KS2_878_1	3.8	3.5 to 4.0	DODGE	CARAVAN E	2003	3/23/2005							
C_KS2_878_2	3.8	3.5 to 4.0	DODGE	CARAVAN E	2003	3/23/2005							
C_KS2_881_1	2.3	2.1 to 2.5	FORD	RANGER XL	1989	3/23/2005							
C_KS2_883_1	5	4.1 to 5.0	CHEVROLET	MONTE CARLO	1984	3/23/2005							
C_KS2_885_1	1.9	1.6 to 2.0	SATURN	STATION WAGON	1994	3/24/2005							
C_KS2_887_1	2.3	2.1 to 2.5	FORD	MUSTANG	1979	3/24/2005							
C_KS2_888_1	1.6	1.6 to 2.0	VW	THING	1974	3/24/2005							
C_KS2_889_1	2.2	2.1 to 2.5	MAZDA	B2200	1988	3/24/2005							
C_KS2_891_1	1.6	1.6 to 2.0	MAZDA	PROTÉGÉ	1999	4/1/2005							
C_KS2_894_1	5	4.1 to 5.0	CHEVROLET	SILVERADO	1989	3/25/2005							
C_KS2_894_2	5	4.1 to 5.0	CHEVROLET	SILVERADO	1989	3/25/2005							
C_KS2_895_1	3.1	3.1 to 3.5	OLDSMOBILE	CUTLASS	1990	3/25/2005							
C_KS2_897_1	4.2	4.1 to 5.0	JEEP	CJ-7	1979	3/28/2005			x				Suspect dilution: Avg CO + CO2 = 10.8%
C_KS2_898_1	2.2	2.1 to 2.5	CHEVROLET	CAVALIER	1991	3/26/2005							
C_KS2_901_1	3.3	3.1 to 3.5	OLDSMOBILE	CUTLASS C	1990	3/26/2005							
C_KS2_902_1	3.3	3.1 to 3.5	FORD	GRANADA	1982	3/26/2005			x	x			Suspect dilution: Avg CO + CO2 = 9.1%, avg exhaust temp (400C) is 70% higher than similar displacement vehicles.
C_KS2_903_1	3	2.6 to 3.0	FORD	AEROSTAR	1990	3/26/2005							
C_KS2_905_1	2.2	2.1 to 2.5	TOYOTA	CAMRY	2001	3/28/2005							
C_KS2_906_1	3	2.6 to 3.0	FORD	ESCAPE	2002	3/28/2005							
C_KS2_910_1	5.7	5.1 to 6.0	PONTIAC	GRAND PRISM	1976	3/29/2005					x	x	erroneous ambient temp (average of -38C)
C_KS2_911_1	2.5	2.1 to 2.5	CHEVROLET	CELEBRITY	1984	3/29/2005							
C_KS2_915_1	1.5	0 to 1.6	HONDA	CIVIC	1990	4/1/2005			x				Suspect dilution: Avg CO + CO2 = 9.3%
C_KS2_916_1	5	4.1 to 5.0	CHEVROLET	VAN 20	1986	4/1/2005							
C_KS2_917_1	4.9	4.1 to 5.0	FORD	F 100 RANG	1978	4/2/2005			x			x	Suspect dilution: Avg CO + CO2 = 7.1%
C_KS2_918_1	2	1.6 to 2.0	FORD	ESCORT	1998	4/2/2005	x					x	Test record has missing or invalid data
C_KS2_918_2	2	1.6 to 2.0	FORD	ESCORT	1998	4/2/2005	x					x	Test record has missing or invalid data

CTR_TST_ID	Disp	Disp Bin	Make	Model	Model Year	Test Date	Missing data	Flow Flag	Dilution Flag	Exh Temp Flag	Ambient Temp Flag	Suspect Data	Data Review Comments
C_KS2_918_3	2	1.6 to 2.0	FORD	ESCORT	1998	4/2/2005							
C_KS2_922_1	5.7	5.1 to 6.0	CHEVROLET	BEAUVILLE	1979	4/4/2005							
C_KS2_923_1	3	2.6 to 3.0	FORD	ESCAPE	2005	4/5/2005							
C_KS2_924_1	2	1.6 to 2.0	FORD	FOCUS	2005	4/5/2005							
C_KS2_925_1	3.3	3.1 to 3.5	DODGE	CARAVAN S	1992	4/6/2005							
C_KS2_926_1	4.9	4.1 to 5.0	FORD	F-150 XL	1995	4/6/2005			x			x	Suspect dilution: Avg CO + CO2 = 8.7%, ambient temp error (avg is 60C)
C_KS2_927_1	4.3	4.1 to 5.0	CHEV	ASTRO VAN	1994	4/6/2005						x	Ambient temp error (avg is 60C)
C_KS2_927_2	4.3	4.1 to 5.0	CHEV	ASTRO VAN	1994	4/6/2005	x					x	Test record has missing or invalid data
C_KS2_928_1	3.3	3.1 to 3.5	DODGE	GRAND CAJ	2000	4/6/2005							
C_KS2_929_1	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1997	4/7/2005							
C_KS2_929_2	5.7	5.1 to 6.0	CHEVROLET	SUBURBAN	1997	4/7/2005							
C_KS2_930_1	3.4	3.1 to 3.5	TOYOTA	FORERUNN	1998	4/6/2005							
C_KS2_935_1	4.9	4.1 to 5.0	FORD	F-250	1995	4/6/2005			x				Suspect dilution: Avg CO + CO2 = 9.9%
C_KS2_937_1	3	2.6 to 3.0	DODGE	CARAVAN	1995	4/7/2005		x				x	Average exhaust flow is > 50% lower than average for all other similar displacement vehicles
C_KS2_937_2	3	2.6 to 3.0	DODGE	CARAVAN	1995	4/7/2005							
C_KS2_939_1	3	2.6 to 3.0	CHEVROLET	ASTROVAN	1992	4/9/2005		x					Average exhaust flow is > 50% higher than average for all other similar displacement vehicles.
C_KS2_941_1	3.3	3.1 to 3.5	PLYMOUTH	VOYAGER	1992	4/8/2005							
C_KS2_944_1	4.3	4.1 to 5.0	CHEVROLET	BLAZER 4X	1993	4/8/2005				x			Avg exhaust temp (470C) is 70% higher than similar displacement vehicles.
C_KS2_945_1	3.3	3.1 to 3.5	CHRYSLER	VOYAGER	2002	4/8/2005							
C_KS2_946_1	2.5	2.1 to 2.5	JEEP	CHEROKEE	1996	4/8/2005							
C_KS2_950_1	5	4.1 to 5.0	FORD	CLUB WAGON	1989	4/9/2005							
C_KS2_984_1	2.4	2.1 to 2.5	DODGE	STRATUS	1999	2/7/2005							
C_KS2_985_1	3.3	3.1 to 3.5	DODGE	INTREPID	1995	2/14/2005							
C_KS2_986_1	3	2.6 to 3.0	TOYOTA	AVALON	1998	2/28/2005							
C_KS2_987_1	4	3.5 to 4.0	FORD	EXPLORER	1993	2/28/2005							
C_KS2_989_1	3.3	3.1 to 3.5	DODGE	GRAND CAJ	2003	4/4/2005							
C_KS2_989_2	3.3	3.1 to 3.5	DODGE	GRAND CAJ	2003	4/4/2005							
C_KS2_1013_1	3	2.6 to 3.0	TOYOTA	CAMRY	1994	1/19/2005							
C_KS2_1014_1	4.6	4.1 to 5.0	MERCURY	GRAND MAJ	1994	2/9/2005							