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APPENDIX F
0°C COLD START DATA

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****
COLD START TEST @ 0 DEGREES C

RUN NUMBER	65	66	67	68	69	70	71	72	73
TEST CODE	1118 1	1118 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1
DAY (julian)	5319	5319	5319	5319	5319	5319	5319	5319	5319
TIME (military)	154633	154638	154644	154649	154654	1547 0	1547 5	154710	154714
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	1160	2346	2354	2361	2365
TORQUE (N-M)	5.7	5.7	5.6	5.6	20.5	98.1	92.2	91.6	91.2
POWER (KW)	-0	-0	-0	-0	2.5	24.1	22.7	22.6	22.6
SMOKE OPACITY (%)	0.3	0.3	0.3	0.3	85.8	5.7	2.9	2.3	2.7
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	2	2	2	2	2	2	3	4	4
COOLANT OUT	2	2	2	2	2	2	3	4	4
OIL SUMP	5	5	5	5	5	4	5	6	7
OIL GALLERY	4	4	4	4	4	6	7	8	8
INTAKE AIR	2	2	2	2	2	4	4	5	5
CELL AMBIENT	2	2	2	2	2	2	2	2	3
BOOST B4 INNER COOLER	2	1	1	1	1	16	18	28	21
BOOST AF INNER COOLER	2	2	2	2	2	4	7	9	10
FUEL IN	2	2	2	2	2	2	2	2	2
EXHAUST #1	2	2	2	2	2	48	237	263	269
EXHAUST #2	2	2	2	2	2	69	234	247	251
EXHAUST #3	2	2	2	2	2	60	236	256	250
EXHAUST #4	2	2	2	2	2	61	252	271	278
EXHAUST #5	2	2	2	2	2	73	248	269	271
EXHAUST #6	2	2	2	2	2	58	268	317	316
EXHAUST STACK	1	1	1	1	37	145	173	185	198
PRESSURE PARAMETERS									
OIL (kpa)	-2	-2	-2	-2	-0	31.7	86.2	132.1	167.2
FUEL (kpa)	46.4	46.4	46.4	46.4	112.9	185.6	189.6	110.3	118.9

COLD START TEST @ 0 DEGREES C

RUN NUMBER	74	75	76	77	78	79	80	81	82
TEST CODE	1118 1	1118 1	1118 1	1118 1	1118 1	1118 1	1118 1	1118 1	1118 1
DAY (julian)	5319	5319	5319	5319	5319	5319	5319	5319	5319
TIME (military)	154717	154721	154725	154729	154733	154737	154742	154746	154753
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2363	2367	2368	2370	2372	2372	2370	2377	2257
TORQUE (N-M)	91.7	91.2	91.2	91.6	91.3	91.9	91.2	91.4	91.5
POWER (KW)	22.7	22.6	22.6	22.7	22.7	22.6	22.6	22.7	21.6
SMOKE OPACITY (%)	2.8	2.7	2.5	2.6	2.6	2.6	2.9	2.7	3.5
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	5	6	6	7	8	9	10	10	11
COOLANT OUT	7	8	9	9	10	11	12	12	14
OIL SUMP	9	10	11	11	13	13	14	14	15
OIL GALLERY	6	6	7	7	8	9	11	11	12
INTAKE AIR	3	3	3	3	3	3	2	2	1
CELL AMBIENT	2	2	3	3	3	3	3	3	3
BOOST B4 INNER COOLER	22	22	23	24	25	25	26	26	27
BOOST AF INNER COOLER	11	12	13	14	14	15	16	16	17
FUEL IN	2	2	2	2	2	2	2	2	3
EXHAUST #1	269	269	269	268	269	268	268	268	265
EXHAUST #2	250	249	248	248	249	250	251	251	248
EXHAUST #3	260	259	259	257	257	257	257	257	256
EXHAUST #4	278	279	280	281	282	281	282	281	283
EXHAUST #5	271	278	271	271	270	268	265	264	264
EXHAUST #6	315	313	312	310	307	307	307	309	307
EXHAUST STACK	194	197	199	201	204	215	207	209	211
PRESSURE PARAMETERS									
OIL (kpa)	201.8	236.7	267.6	298.3	320.9	334.9	349.7	356.6	364.4
FUEL (kpa)	111.7	118.9	113.1	114.6	114.1	113.6	113.6	113.4	128.0

**** SYNFUEL PROJECT 83-8538 TEST RESULTS ****
COLD START TEST # 0 DEGREES C

RUN NUMBER	83	84	85	85	87	88	89	90	91
TEST CODE	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1
DAY (julian)	5319	5319	5319	5319	5319	5319	5319	5319	5319
TIME (military)	1548 0	1548 5	154812	154817	154823	154828	154834	154840	154845
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1629	863	841	847	835	833	838	829	835
TORQUE (K-N)	75.2	51.0	48.4	47.7	49.3	48.2	48.8	48.6	48.8
POWER (KW)	12.8	4.7	4.3	4.2	4.3	4.2	4.2	4.2	4.3
SMOKE OPACITY (Z)	1.2	.6	1.8	1.4	1.2	1.4	1.3	1.4	1.4
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	12	13	13	13	13	13	13	14	14
COOLANT OUT	15	16	16	16	17	17	17	17	17
OIL SUMP	17	18	18	18	18	19	19	19	19
OIL GALLERY	14	15	16	16	16	17	17	18	18
INTAKE AIR	1	1	1	0	0	-9	-9	-1	-1
CELL AMBIENT	3	3	3	2	2	2	2	2	2
BOOST B4 INNER COOLER	22	18	16	14	13	13	12	11	11
BOOST AF INNER COOLER	17	16	15	14	14	13	13	13	13
FUEL IN	3	3	4	4	4	4	5	5	5
EXHAUST #1	218	162	148	145	142	146	139	138	138
EXHAUST #2	195	149	136	133	130	129	126	126	126
EXHAUST #3	195	143	138	138	137	136	135	135	135
EXHAUST #4	219	169	156	149	144	142	141	140	139
EXHAUST #5	284	153	137	133	133	131	131	130	129
EXHAUST #6	221	161	157	153	158	150	150	158	149
EXHAUST STACK	176	148	148	137	135	134	132	132	131
PRESSURE PARAMETERS									
OIL (kpa)	356.2	341.6	325.5	316.3	312.8	309.8	307.2	306.1	305.6
FUEL (kpa)	135.2	189.9	179.6	188.1	179.6	178.5	178.6	177.9	178.2

COLD START TEST # 0 DEGREES C

RUN NUMBER	92	93	94	95	96	97	98	99	100
TEST CODE	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1	1110 1
DAY (julian)	5319	5319	5319	5319	5319	5319	5319	5319	5319
TIME (military)	154851	154856	1549 5	1549 8	154912	154916	154919	154923	154926
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	835	838	834	835	835	836	834	836	835
TORQUE (K-N)	48.5	48.9	49.4	48.8	49.1	48.8	49.2	49.3	48.6
POWER (KW)	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2
SMOKE OPACITY (Z)	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.6
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	14	14	14	14	14	15	15	15	15
COOLANT OUT	17	18	18	18	18	18	18	18	18
OIL SUMP	19	20	20	20	20	20	20	20	21
OIL GALLERY	18	18	19	19	19	19	19	19	19
INTAKE AIR	-1	-1	-1	-2	-2	-2	-2	-2	-2
CELL AMBIENT	2	1	1	1	1	1	1	1	1
BOOST B4 INNER COOLER	11	10	10	16	9	9	9	9	9
BOOST AF INNER COOLER	12	12	12	12	12	12	12	12	12
FUEL IN	5	5	6	6	6	6	6	6	6
EXHAUST #1	137	137	137	137	137	137	137	137	137
EXHAUST #2	125	125	124	124	124	124	123	123	123
EXHAUST #3	134	133	133	133	133	132	132	132	132
EXHAUST #4	139	139	138	138	138	137	137	137	137
EXHAUST #5	128	128	129	128	129	129	128	128	128
EXHAUST #6	149	148	146	146	146	146	145	144	144
EXHAUST STACK	131	130	129	129	129	129	128	128	128
PRESSURE PARAMETERS									
OIL (kpa)	305.3	305.1	*305.1	305.8	305.1	305.8	305.8	305.1	305.2
FUEL (kpa)	179.3	178.1	175.3	178.9	179.1	177.2	178.9	179.3	179.1

**** SYNFUEL PROJECT #3-0538 TEST RESULTS ****
COLD START TEST # 0 DEGREES C

RUN NUMBER	101	102	103	104	105	106	107	108	109
TEST CODE	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	1534 6	1534 10	1534 13	1534 16	1534 20	1534 23	1534 26	1534 29	1534 33
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	0	-0	-0	88	1061	2340	2344	2350	2350
TORQUE (N-H)	.2	.2	.2	-28.6	28.2	89.0	104.3	101.1	98.9
POWER (KW)	.0	-0.0	-0.0	-0.2	3.1	21.8	25.6	24.9	24.3
SMOKE OPACITY (Z)	.1	.1	.1	.1	07.3	33.0	4.0	4.1	3.7
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	1	1	1	1	1	1	1	1	2
COOLANT OUT	1	2	2	2	2	2	2	3	3
OIL SUMP	1	1	1	1	1	1	1	1	2
OIL GALLERY	1	1	1	1	1	1	1	1	1
INTAKE AIR	-1	-1	-1	-1	-0	-0	-0	-0	-0
CELL AMBIENT	-1	-1	-1	-1	-1	-0	-0	-0	-0
BOOST B4 INNER COOLER	0	1	1	1	0	3	16	17	18
BOOST AF INNER COOLER	1	1	1	1	1	1	3	5	6
FUEL IN	1	1	1	1	0	0	0	1	1
EXHAUST #1	1	1	1	1	56	177	245	265	272
EXHAUST #2	1	1	1	1	61	195	241	248	251
EXHAUST #3	1	1	1	1	62	199	242	256	261
EXHAUST #4	1	1	1	1	74	228	270	279	282
EXHAUST #5	1	1	1	1	86	222	258	272	276
EXHAUST #6	1	1	1	1	69	202	279	309	324
EXHAUST STACK	1	1	1	1	40	119	155	172	183
PRESSURE PARAMETERS									
OIL (kpa)	-7	-6	-5	-5	1.0	25.2	63.9	97.9	132.9
FUEL (kpa)	55.7	55.6	55.6	58.9	117.2	105.0	108.5	111.6	112.3

COLD START TEST # 0 DEGREES C

RUN NUMBER	110	111	112	113	114	115	116	117	118
TEST CODE	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	1534 36	1534 39	1534 42	1534 46	1534 49	1534 52	1534 55	1534 58	1535 1
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2353	2357	2362	2362	2370	2373	2379	2377	2371
TORQUE (N-H)	98.5	98.0	98.1	97.8	98.5	98.7	99.0	99.8	99.2
POWER (KW)	24.3	24.2	24.2	24.2	24.4	24.5	24.7	24.8	24.6
SMOKE OPACITY (Z)	3.3	3.4	3.4	3.7	3.3	3.3	3.2	3.2	2.8
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	2	3	3	4	5	5	6	7	7
COOLANT OUT	4	5	5	6	7	7	8	9	9
OIL SUMP	3	3	4	5	6	7	7	8	9
OIL GALLERY	1	1	2	2	3	3	3	4	4
INTAKE AIR	0	0	1	1	1	1	2	2	2
CELL AMBIENT	-0	-0	0	0	0	0	1	1	1
BOOST B4 INNER COOLER	19	21	21	22	23	23	24	25	25
BOOST AF INNER COOLER	0	9	10	11	12	12	13	14	14
FUEL IN	1	1	1	1	1	1	1	1	1
EXHAUST #1	275	275	274	275	276	275	276	275	274
EXHAUST #2	255	256	256	256	256	256	257	259	258
EXHAUST #3	263	264	265	265	266	265	266	266	265
EXHAUST #4	283	284	284	286	286	287	288	290	290
EXHAUST #5	275	272	271	271	271	272	273	273	273
EXHAUST #6	333	336	336	336	334	333	334	332	329
EXHAUST STACK	190	195	198	201	204	206	209	211	212
PRESSURE PARAMETERS									
OIL (kpa)	171.7	211.7	251.2	288.9	318.3	341.4	356.9	366.8	372.4
FUEL (kpa)	112.8	112.3	114.9	112.7	113.6	114.4	113.8	114.9	114.7

**** SYNFUEL PROJECT 03-8538
COLD START TEST @ 0 DEGREES C

TEST RESULTS ****

RUN NUMBER	115	120	121	122	123	124	125	126	127
TEST CODE	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	1535 5	1535 8	1535 11	1535 14	1535 17	1535 20	1535 23	1535 27	1535 30
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2881	1883	1151	842	849	846	848	847	846
TORQUE (N-M)	97.9	86.8	68.8	38.8	41.3	42.5	42.9	42.7	42.6
POWER (KW)	21.3	16.2	7.3	3.4	3.6	3.8	3.8	3.8	3.8
SMOKE OPACITY (Z)	4.5	6.9	.8	.8	1.0	1.1	1.0	1.0	.9

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	8	8	9	9	9	10	10	10	10
COOLANT OUT	10	10	11	12	12	12	12	12	13
OIL SUMP	9	10	11	11	11	12	12	12	12
OIL GALLERY	5	5	6	7	8	9	9	9	9
INTAKE AIR	2	2	2	2	3	3	3	3	3
CELL AMBIENT	1	1	1	2	2	2	2	2	2
BOOST B4 INNER COOLER	26	25	22	19	17	15	14	14	13
BOOST AF INNER COOLER	15	15	15	14	14	13	13	12	12
FUEL IN	1	1	1	1	1	1	1	2	2
EXHAUST #1	273	253	197	162	155	150	149	145	143
EXHAUST #2	257	240	190	159	151	145	141	137	133
EXHAUST #3	264	246	189	156	152	148	146	143	142
EXHAUST #4	289	263	206	171	165	161	159	157	155
EXHAUST #5	271	252	196	162	155	149	146	144	142
EXHAUST #6	325	292	226	188	182	179	173	167	162
EXHAUST STACK	212	199	169	149	144	140	138	135	133

PRESSURE PARAMETERS

OIL (kpa)	373.9	378.9	368.5	344.8	333.8	325.4	321.6	317.4	314.9
FUEL (kpa)	143.2	124.3	199.5	181.8	179.0	179.2	188.2	188.5	179.8

COLD START TEST @ 0 DEGREES C

RUN NUMBER	128	129	130	131	132	133	134	135	136
TEST CODE	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2	1110 2
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	1535 33	1535 36	1535 39	1535 42	1535 45	1535 48	1535 51	1535 55	1535 58
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2

ENGINE PARAMETERS

ENGINE SPEED (rpm)	845	842	842	838	805	296	1	0	0
TORQUE (N-M)	42.2	42.5	42.1	42.7	43.7	23.8	4.7	.7	.5
POWER (KW)	3.7	3.8	3.7	3.8	3.7	.7	.8	.0	.0
SMOKE OPACITY (Z)	.9	.9	.9	1.0	1.0	.2	.1	.1	.1

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	11	11	11	11	12	12	12	12	12
COOLANT OUT	13	13	13	14	14	14	14	14	14
OIL SUMP	13	13	13	13	13	13	13	13	13
OIL GALLERY	9	9	10	10	10	10	11	11	10
INTAKE AIR	3	3	3	3	3	3	3	3	3
CELL AMBIENT	2	2	2	2	2	3	3	3	3
BOOST B4 INNER COOLER	13	12	12	12	11	11	11	11	11
BOOST AF INNER COOLER	12	11	11	11	11	11	11	10	10
FUEL IN	2	2	2	2	2	3	3	2	2
EXHAUST #1	141	139	137	135	134	119	110	109	108
EXHAUST #2	131	129	128	127	126	113	105	104	103
EXHAUST #3	148	139	139	137	136	120	111	109	108
EXHAUST #4	154	152	151	150	150	132	123	121	120
EXHAUST #5	141	139	137	136	134	118	109	107	106
EXHAUST #6	159	157	157	156	156	137	126	124	122
EXHAUST STACK	132	131	130	129	128	119	115	112	110

PRESSURE PARAMETERS

OIL (kpa)	313.2	312.1	311.1	310.3	309.7	303.8	247.6	192.3	155.5
FUEL (kpa)	188.2	179.9	179.4	178.6	183.3	151.1	118.0	98.1	95.1

**** SYN FUEL PROJECT 03-0538 TEST RESULTS ****
COLD START TEST # 0 DEGREES C

RUN NUMBER	137	138	139	140	141	142	143	144	145
TEST CODE	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	164929	164933	164936	164940	164944	164949	164954	1650 0	1650 5
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	0	0	0	757	1498	2347	2353	2358	2359
TORQUE (N-H)	.4	.4	.7	-128.5	51.0	100.2	98.4	96.8	95.2
POWER (KW)	.0	.0	.0	-10.2	8.0	24.6	23.8	23.7	23.5
SMOKE OPACITY (Z)	.1	.1	.1	57.8	85.0	3.5	2.7	2.3	2.3
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-1	-0	-0	-0	-0	-0	-0	0	0
COOLANT OUT	1	1	1	1	1	1	2	3	4
OIL SUMP	5	5	5	5	7	7	8	8	9
OIL GALLERY	5	5	5	5	6	6	6	6	6
INTAKE AIR	-4	-4	-4	-4	-3	-3	-3	-2	-2
CELL AMBIENT	-3	-3	-3	-3	-3	-3	-3	-2	-2
BOOST B4 INNER COOLER	-2	-1	-1	-2	-1	13	16	17	18
BOOST AF INNER COOLER	0	0	0	0	0	2	5	7	9
FUEL IN	0	0	0	0	-1	-0	1	1	1
EXHAUST #1	1	1	1	1	71	239	258	263	264
EXHAUST #2	1	1	1	1	75	236	246	248	247
EXHAUST #3	1	1	1	1	98	239	254	256	257
EXHAUST #4	1	1	1	1	101	254	270	274	277
EXHAUST #5	1	1	1	1	115	249	264	266	268
EXHAUST #6	1	1	1	1	186	285	316	321	319
EXHAUST STACK	-1	-1	-1	-1	54	151	173	184	190
PRESSURE PARAMETERS									
OIL (kpa)	-1.6	-1.3	-1.6	-1.7	3.0	66.5	123.0	183.1	243.9
FUEL (kpa)	57.2	57.1	57.1	81.1	118.5	111.0	112.7	112.1	112.7

COLD START TEST # 0 DEGREES C

RUN NUMBER	146	147	148	149	150	151	152	153	154
TEST CODE	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3	1110 3
DAY (julian)	5322	5322	5322	5322	5322	5322	5322	5322	5322
TIME (military)	165010	165015	165020	165025	165030	165035	165041	165046	165051
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2360	1739	915	836	847	596	1	0	0
TORQUE (N-H)	95.2	75.8	47.5	40.8	41.3	37.9	1.7	.3	.3
POWER (KW)	23.5	13.8	4.5	3.6	3.7	2.4	.8	.0	.0
SMOKE OPACITY (Z)	2.5	1.1	.3	1.3	1.2	.5	.1	.1	.0
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	1	2	2	3	3	4	5	5	5
COOLANT OUT	5	7	8	8	8	8	9	8	8
OIL SUMP	10	11	12	12	12	12	12	12	12
OIL GALLERY	7	7	8	9	10	10	10	10	9
INTAKE AIR	-1	-1	-0	-0	-0	0	0	0	0
CELL AMBIENT	-2	-2	-2	-1	-1	-1	-1	-1	-1
BOOST B4 INNER COOLER	26	17	13	10	9	8	8	8	8
BOOST AF INNER COOLER	10	11	10	9	9	8	8	7	7
FUEL IN	1	1	1	1	1	1	1	1	1
EXHAUST #1	264	219	161	141	138	132	110	107	104
EXHAUST #2	247	204	149	131	126	120	100	98	96
EXHAUST #3	257	210	150	134	132	126	104	101	98
EXHAUST #4	278	229	166	153	150	144	118	116	113
EXHAUST #5	260	222	162	143	137	132	108	105	102
EXHAUST #6	315	231	175	163	158	147	129	117	113
EXHAUST STACK	195	171	136	125	121	116	103	99	95
PRESSURE PARAMETERS									
OIL (kpa)	296.3	326.8	328.8	317.9	315.3	311.8	238.9	167.1	125.1
FUEL (kpa)	113.4	116.5	107.9	177.2	178.4	180.2	105.5	95.1	93.4

**** SYNFUEL PROJECT 03-8530 TEST RESULTS ****
 COLD START TEST @ 0 DEGREES C

RUN NUMBER	389	390	391	392	393	394	395	396	397
TEST CODE	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1
DAY (julian)	5329	5329	5329	5329	5329	5329	5329	5329	5329
TIME (military)	94920	94928	94933	94939	94942	94946	94950	94953	94958
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	594	2332	2337	2053	927	786	789
TORQUE (K-H)	-5	-4	-195.5	119.3	104.9	113.5	54.1	41.6	43.4
POWER (KW)	0	0	-12.2	26.9	25.7	22.2	5.3	3.4	3.6
SMOKE OPACITY (%)	0	0	45.0	7.7	4.0	3.9	1.5	0.8	1.2
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-1	-1	-1	-1	-1	-1	-0	0	0
COOLANT OUT	-1	-1	-1	-1	-1	-1	-1	-1	-1
OIL SUMP	-1	-1	-1	-2	-1	-1	-1	-1	-1
OIL GALLERY	-1	-1	-1	-1	-1	-1	-1	-1	-1
INTAKE AIR	-0	-1	-1	-3	-4	-4	-4	-4	-4
CELL AMBIENT	-0	-1	-1	-1	-2	-2	-2	-2	-2
BOOST B4 INNER COOLER	-1	-1	-1	7	14	16	12	9	7
BOOST AF INNER COOLER	-1	-1	-1	-1	3	4	5	5	4
FUEL IN	-1	-1	-1	-1	-1	-1	-2	-2	-2
EXHAUST #1	-1	-1	-1	219	253	263	178	154	148
EXHAUST #2	-1	-1	-1	233	242	249	171	147	138
EXHAUST #3	-1	-1	-1	232	248	256	169	146	139
EXHAUST #4	-1	-1	-1	236	261	269	170	156	149
EXHAUST #5	-1	-1	-1	242	258	263	175	158	140
EXHAUST #6	-1	-1	-1	231	296	324	215	187	185
EXHAUST STACK	-0	-0	-0	126	155	172	130	116	110
PRESSURE PARAMETERS									
OIL (kpa)	0	-2	-5	18.0	55.6	104.8	138.7	166.8	200.0
FUEL (kpa)	2.3	2.3	13.7	111.5	112.2	148.3	191.9	171.6	169.1

COLD START TEST @ 0 DEGREES C

RUN NUMBER	398	399	400	401	402	403	404	405	406
TEST CODE	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1	1210 1
DAY (julian)	5329	5329	5329	5329	5329	5329	5329	5329	5329
TIME (military)	950 3	950 7	950 11	950 15	950 19	950 23	950 27	950 31	950 36
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	787	586	-0	-1	-1	-1	-1	-1	-1
TORQUE (K-H)	43.5	42.3	10.4	-6	-8	-8	-8	-8	-8
POWER (KW)	3.6	2.6	-0	0	0	0	0	0	0
SMOKE OPACITY (%)	1.1	0.8	1	0	0	0	0	0	0
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	1	1	1	1	1	1	1	1	1
COOLANT OUT	2	3	3	3	3	3	3	3	3
OIL SUMP	-1	0	0	1	1	1	1	1	1
OIL GALLERY	-0	0	0	1	1	1	0	0	-0
INTAKE AIR	-5	-5	-5	-5	-5	-5	-5	-5	-5
CELL AMBIENT	-2	-2	-3	-3	-3	-3	-3	-3	-4
BOOST B4 INNER COOLER	5	4	3	4	4	4	4	3	3
BOOST AF INNER COOLER	4	3	3	3	3	3	2	2	2
FUEL IN	-2	-2	-2	-1	-1	-1	-1	-1	-1
EXHAUST #1	143	140	117	113	110	107	103	99	95
EXHAUST #2	133	128	108	105	102	99	96	93	90
EXHAUST #3	134	131	108	103	101	97	94	91	87
EXHAUST #4	145	143	118	115	112	109	106	102	99
EXHAUST #5	134	132	109	106	103	99	96	93	89
EXHAUST #6	182	179	149	139	135	130	125	121	115
EXHAUST STACK	107	105	93	89	86	84	81	78	75
PRESSURE PARAMETERS									
OIL (kpa)	228.8	253.3	246.8	192.2	155.6	131.5	114.5	99.4	84.6
FUEL (kpa)	170.1	171.8	112.9	96.2	93.3	92.3	91.7	91.3	90.7

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****
COLD START TEST @ 0 DEGREES C

RUN NUMBER	407	408	409	410	411	412	413	414	415
TEST CODE	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2
DAY (julian)	5329	5329	5329	5329	5329	5329	5329	5329	5329
TIME (military)	1327 5	132710	132715	132722	132728	132733	132739	132744	132749
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	2319	2343	2348	2166	854	800
TORQUE (N-M)	-3.6	-3.5	-1.8	69.9	85.0	83.4	83.5	32.2	33.2
POWER (KW)	.0	.0	.0	17.0	21.1	20.5	18.9	2.9	2.8
SMOKE OPACITY (Z)	.1	.0	.0	31.8	3.7	2.6	5.2	.3	.8

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-1	-1	-1	-1	-1	-0	1	2	2
COOLANT OUT	-1	-1	-1	-1	0	1	2	3	4
OIL SUMP	-1	-1	-1	-1	0	1	2	3	4
OIL GALLERY	-1	-1	-1	-1	-1	-1	0	1	2
INTAKE AIR	-0	-0	-1	-2	-4	-4	-4	-4	-4
CELL AMBIENT	-0	-0	-1	-1	-1	-2	-2	-2	-2
BOOST B4 INNER COOLER	-1	-1	-1	-1	14	16	17	12	8
BOOST AF INNER COOLER	-1	-1	-1	-1	2	5	7	7	6
FUEL IN	-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1	-1	-1	-1	189	247	261	264	164	146
EXHAUST #2	-1	-1	-1	154	245	246	247	156	137
EXHAUST #3	-1	-1	-1	119	248	249	251	152	137
EXHAUST #4	-1	-1	-1	142	258	267	269	162	147
EXHAUST #5	-1	-1	-1	147	251	257	258	158	138
EXHAUST #6	-1	-1	-1	121	297	324	329	209	180
EXHAUST STACK	-1	-1	-1	72	152	172	193	132	116

PRESSURE PARAMETERS									
OIL (kpa)	.6	.6	.6	12.6	78.3	141.2	210.2	253.4	277.5
FUEL (kpa)	56.5	56.5	56.5	105.8	114.7	115.9	146.1	188.2	174.0

COLD START TEST @ 0 DEGREES C

RUN NUMBER	416	417	418	419	420	421	422	423	424
TEST CODE	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2	1210 2
DAY (julian)	5329	5329	5329	5329	5329	5329	5329	5329	5329
TIME (military)	132755	1328 1	1328 6	132811	132818	132823	132826	132829	132833
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	816	1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	34.1	11.2	-3.5	-3.9	-3.9	-3.8	-3.8	-3.8	-3.8
POWER (KW)	2.9	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	.9	.1	.0	.0	.0	.0	.0	.0	.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	2	3	3	3	3	3	3	3	3
COOLANT OUT	4	4	4	4	4	4	4	4	4
OIL SUMP	4	4	4	4	4	4	4	4	4
OIL GALLERY	2	3	3	3	2	2	1	1	1
INTAKE AIR	-4	-5	-5	-5	-5	-5	-5	-5	-5
CELL AMBIENT	-2	-2	-2	-3	-3	-3	-3	-4	-4
BOOST B4 INNER COOLER	5	5	5	5	5	5	5	5	5
BOOST AF INNER COOLER	6	5	5	4	4	4	4	4	3
FUEL IN	-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1	142	124	113	109	104	100	97	94	92
EXHAUST #2	131	114	105	102	98	95	92	90	88
EXHAUST #3	132	112	103	99	95	91	88	86	84
EXHAUST #4	143	122	112	109	105	101	98	96	94
EXHAUST #5	131	112	103	99	95	91	88	86	84
EXHAUST #6	172	147	132	126	120	114	111	108	105
EXHAUST STACK	113	102	95	91	86	82	80	78	76

PRESSURE PARAMETERS									
OIL (kpa)	292.9	295.1	289.5	151.8	112.9	90.8	80.8	73.0	65.0
FUEL (kpa)	175.2	136.7	97.6	93.6	92.3	91.7	91.3	91.1	91.9

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****
COLD START TEST # 0 DEGREES C

RUN NUMBER	533	534	535	536	537	538	539	540	541
TEST CODE	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	910 8	91012	91015	91019	91023	91027	91031	91035	91039
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-2	-2	-2	145	12	534	879	1059	2269
TORQUE (H-H)	-7	-7	1.7	-235.3	8.4	23.1	34.7	39.3	58.1
POWER (KW)	-0.8	-0.8	-0.8	-3.9	0.0	1.3	3.2	4.4	13.8
SMOKE OPACITY (%)	0	0	0	36.4	97.9	99.0	99.9	99.8	75.5
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-2	-2	-2	-2	-2	-2	-1	-1	-1
COOLANT OUT	-2	-2	-2	-2	-2	-2	-1	-1	-1
OIL SUMP	-3	-3	-3	-3	-3	-3	-3	-3	-2
OIL GALLERY	-3	-3	-3	-3	-3	-3	-2	-2	-2
INTAKE AIR	1	1	1	1	1	1	1	1	1
CELL AMBIENT	1	1	1	1	1	1	1	1	1
BOOST B4 INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	2
BOOST AF INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
FUEL IN	-1	-1	-1	-1	-1	-1	-1	-2	-2
EXHAUST #1	-1	-1	-1	-1	25	38	67	116	150
EXHAUST #2	-1	-1	-1	-1	19	40	78	121	171
EXHAUST #3	-2	-2	-2	-2	16	36	72	108	137
EXHAUST #4	-2	-2	-2	-2	18	38	76	118	171
EXHAUST #5	-2	-2	-2	-2	18	38	71	125	179
EXHAUST #6	-1	-1	-1	-1	40	91	132	173	211
EXHAUST STACK	0	0	0	0	11	25	44	73	108
PRESSURE PARAMETERS									
OIL (tpa)	-9	-8	-8	-1.0	-1.0	4.2	30.9	62.3	103.5
FUEL (tpa)	48.0	48.0	48.0	63.3	103.4	120.3	132.7	124.7	104.5

COLD START TEST # 1 DEGREES C

RUN NUMBER	542	543	544	545	546	547	548	549	550
TEST CODE	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1	1310 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	91043	91047	91051	91054	91058	911 2	911 5	911 8	91112
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH	TARSAH
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2318	2321	2343	2349	1294	833	832	830	834
TORQUE (H-H)	71.4	66.1	65.6	66.5	38.6	24.9	32.8	33.5	33.6
POWER (KW)	17.3	16.1	16.1	16.4	5.2	2.2	2.9	2.9	2.9
SMOKE OPACITY (%)	26.7	15.4	12.1	9.0	1.6	1.3	1.8	1.9	1.8
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-1	-1	-1	0	1	2	2	2	3
COOLANT OUT	0	1	2	2	3	4	4	5	5
OIL SUMP	-2	-2	-1	-1	0	1	2	2	2
OIL GALLERY	-2	-2	-2	-2	-2	-1	-1	-1	0
INTAKE AIR	0	1	1	1	1	2	2	2	2
CELL AMBIENT	1	1	1	1	1	1	1	1	1
BOOST B4 INNER COOLER	18	20	22	23	22	16	13	11	10
BOOST AF INNER COOLER	2	5	7	8	10	9	9	8	7
FUEL IN	-2	-2	-2	-2	-2	-2	-2	-2	-1
EXHAUST #1	289	330	341	344	275	200	182	171	164
EXHAUST #2	278	292	295	294	235	175	161	152	144
EXHAUST #3	267	297	305	306	240	173	160	152	147
EXHAUST #4	292	312	318	328	251	181	168	161	155
EXHAUST #5	298	335	343	343	266	195	175	164	158
EXHAUST #6	244	181	156	131	99	76	97	111	119
EXHAUST STACK	170	190	199	203	175	143	133	128	124
PRESSURE PARAMETERS									
OIL (tpa)	142.9	186.0	224.5	268.9	301.4	307.3	310.4	312.6	314.4
FUEL (tpa)	107.2	107.0	106.2	108.0	196.3	184.3	183.4	184.4	183.4

*** SYNFUEL PROJECT 03-053B TEST RESULTS ***
 COLD START TEST # 0 DEGREES C

RUN NUMBER	551	552	553	554	555	556	557	558	559
TEST CODE	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	10 938	10 941	10 945	10 948	10 952	10 955	10 959	10 10 3	10 10 7
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	329	396	764	989	1158	2316
TORQUE (N-M)	-7	-6	-1.6	-126.3	7.9	29.3	36.1	43.6	81.6
POWER (KW)	.8	.8	.8	-4.3	.3	2.3	3.7	5.3	19.8
SMOKE OPACITY (%)	.8	.8	.8	67.1	97.6	99.8	99.9	99.5	33.6

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-3	-3	-3	-3	-3	-3	-2	-2	-2
COOLANT OUT	-3	-1	-1	-1	-1	-1	-1	-1	-1
OIL SUMP	1	1	1	1	2	2	2	2	2
OIL GALLERY	1	1	1	1	1	1	1	1	1
INTAKE AIR	-1	-1	-1	-1	-1	-1	-1	-1	-1
CELL AMBIENT	-8	-8	-8	-8	-8	-8	-8	-8	-8
BOOST B4 INNER COOLER	-2	-2	-2	-2	-2	-2	-1	0	5
BOOST AF INNER COOLER	-2	-2	-2	-2	-2	-2	-2	-2	-1
FUEL IN	-2	-2	-2	-2	-2	-2	-2	-2	-2
EXHAUST #1	-1	-1	-1	-2	11	36	73	116	243
EXHAUST #2	-1	-1	-1	0	19	48	86	128	247
EXHAUST #3	-1	-1	-1	3	17	49	78	121	240
EXHAUST #4	-1	-1	-1	9	32	64	101	143	268
EXHAUST #5	-1	-1	-1	9	21	52	92	138	253
EXHAUST #6	-1	-1	-1	9	44	116	137	190	383
EXHAUST STACK	-2	-2	-2	1	12	33	55	87	154

PRESSURE PARAMETERS									
OIL (kpa)	2.8	2.8	2.8	2.1	12.7	38.8	63.2	86.6	120.4
FUEL (kpa)	75.2	75.2	75.2	98.7	113.4	126.1	126.4	115.5	108.7

COLD START TEST # 0 DEGREES C

RUN NUMBER	560	561	562	563	564	565	566	567	568
TEST CODE	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2	1310 2
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	101012	101015	101019	101023	101026	101030	101034	101038	101041
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2342	2345	2341	2359	2365	2368	2159	1212	857
TORQUE (N-M)	68.5	66.2	66.7	66.4	65.0	64.3	65.3	36.1	26.7
POWER (KW)	16.3	16.3	16.3	16.4	16.1	15.9	14.8	4.6	2.4
SMOKE OPACITY (%)	14.9	18.6	8.8	7.9	6.9	6.6	11.4	1.8	.9

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-1	-8	8	1	2	3	3	4	5
COOLANT OUT	1	2	2	3	4	5	5	6	7
OIL SUMP	2	4	4	5	5	6	7	8	8
OIL GALLERY	1	1	2	2	3	3	3	4	5
INTAKE AIR	-8	-8	8	8	1	1	1	1	1
CELL AMBIENT	-8	-8	-8	-8	8	8	8	8	8
BOOST B4 INNER COOLER	18	21	22	23	24	24	25	21	17
BOOST AF INNER COOLER	3	6	8	9	11	11	12	12	12
FUEL IN	-2	-2	-2	-2	-2	-2	-1	-1	-1
EXHAUST #1	316	330	334	333	330	330	328	232	183
EXHAUST #2	279	288	288	284	281	277	274	197	159
EXHAUST #3	283	299	302	301	300	296	294	205	163
EXHAUST #4	308	320	320	321	319	317	315	217	172
EXHAUST #5	307	333	336	333	329	325	321	225	179
EXHAUST #6	283	149	130	115	107	101	98	75	65
EXHAUST STACK	182	196	202	205	206	206	206	165	143

PRESSURE PARAMETERS									
OIL (kpa)	175.2	211.7	253.4	294.4	322.1	343.0	360.4	357.5	344.3
FUEL (kpa)	188.9	110.1	110.3	110.8	112.7	112.8	142.3	197.3	186.5

*** SYNFUEL PROJECT 03-853B TEST RESULTS ***
 COLD START TEST @ 0 DEGREES C

RUN NUMBER	752	753	754	755	756	757	758	759	760
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME (military)	165215	165219	165221	165224	165227	165230	165233	165236	165239
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	1	-0	1	3	204
TORQUE (N-M)	-7.4	-7.4	-4.2	-203.3	-89.9	-69.2	-34.7	-52.7	-3.6
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.1
SMOKE OPACITY (%)	.4	.4	.5	57.3	96.6	99.9	100.2	100.3	100.2
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	0	1	1	1	1	1	1	1	1
COOLANT OUT	0	2	2	2	2	2	2	3	2
OIL SUMP	1	2	2	2	2	2	2	3	3
OIL GALLERY	1	1	1	1	1	1	1	1	1
INTAKE AIR	-1	-1	-1	-2	-2	-2	-2	-3	-3
CELL AMBIENT	-0	-0	-0	-0	-1	-1	-1	-1	-1
BOOST B4 INNER COOLER	0	0	0	0	0	0	0	0	0
BOOST AF INNER COOLER	-0	-0	-0	-0	-0	-0	-0	-0	-0
FUEL IN	-0	-0	-0	-0	-0	0	0	0	-0
EXHAUST #1	1	1	1	1	7	11	15	16	23
EXHAUST #2	1	1	1	1	4	14	23	29	36
EXHAUST #3	1	1	1	1	-0	6	12	15	18
EXHAUST #4	1	1	1	1	22	27	34	36	48
EXHAUST #5	1	1	1	1	11	14	22	22	27
EXHAUST #6	1	1	1	1	-2	-3	-4	-4	4
EXHAUST STACK	0	0	0	1	3	5	8	10	14
PRESSURE PARAMETERS									
OIL (kpa)	1.3	1.3	1.3	1.2	1.2	1.3	4.5	17.7	41.3
FUEL (kpa)	67.3	67.2	67.3	71.2	77.2	82.5	88.5	93.4	98.5

COLD START TEST @ 0 DEGREES C

RUN NUMBER	761	762	763	764	765	766	767	768	769
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME (military)	165242	165245	165249	165252	165255	165258	1653 1	1653 5	1653 8
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	99	3	43	125	318	28	17	25	357
TORQUE (N-M)	3.4	6.7	8.0	8.3	8.7	8.1	7.9	9.3	10.4
POWER (KW)	.0	.0	.0	.1	.3	.0	.0	.0	.4
SMOKE OPACITY (%)	100.3	99.6	100.2	100.3	100.3	100.3	100.3	100.3	100.3
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	1	1	1	1	1	1	1	1	1
COOLANT OUT	1	2	2	1	2	2	2	2	2
OIL SUMP	3	4	2	3	2	2	2	2	3
OIL GALLERY	1	1	1	1	1	2	2	2	2
INTAKE AIR	-3	-3	-4	-4	-4	-4	-5	-5	-5
CELL AMBIENT	-2	-2	-2	-2	-2	-2	-3	-3	-3
BOOST B4 INNER COOLER	-0	-0	-0	-0	-0	-0	-0	-0	-1
BOOST AF INNER COOLER	-0	-0	-0	-0	-0	-0	-0	-0	-0
FUEL IN	-0	-0	-0	-0	-0	-0	-1	-1	-1
EXHAUST #1	28	39	48	60	63	60	64	59	61
EXHAUST #2	43	58	59	58	63	69	72	80	81
EXHAUST #3	25	30	36	39	43	45	47	49	46
EXHAUST #4	57	61	65	73	78	83	90	95	98
EXHAUST #5	36	43	49	54	61	62	63	69	75
EXHAUST #6	8	5	3	8	8	10	14	16	26
EXHAUST STACK	18	21	24	26	29	31	33	36	38
PRESSURE PARAMETERS									
OIL (kpa)	60.4	85.4	105.9	126.6	146.3	165.1	182.4	200.0	215.3
FUEL (kpa)	102.4	102.7	109.2	111.5	112.8	113.3	113.6	114.5	115.0

*** SYNUEL PROJECT 03-8538 TEST RESULTS ***
COLD START TEST @ 0 DEGREES C

RUN NUMBER		770	771	772	773	774	775	776	777	778
TEST CODE		1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY	(julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME	(military)	165311	165314	165317	165320	165323	165326	165330	165333	165336
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	335	242	129	346	333	289	343	392	671
TORQUE	(N-M)	9.6	10.0	10.0	10.6	10.6	9.2	10.7	9.4	21.2
POWER	(KW)	.3	.3	.1	.4	.4	.3	.4	.4	1.5
SNOKE OPACITY	(Z)	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.4	100.3

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		2	2	2	2	2	2	2	2	3
COOLANT OUT		2	2	2	2	2	2	2	2	3
OIL SUMP		2	2	2	2	2	2	2	2	3
OIL GALLERY		2	2	2	2	2	2	2	2	3
INTAKE AIR		-5	-5	-5	-5	-5	-5	-5	-5	-5
CELL AMBIENT		-3	-3	-3	-3	-3	-3	-3	-3	-3
BOOST B4 INNER COOLER		-1	-1	-1	-1	-1	-1	-1	-1	-1
BOOST AF INNER COOLER		-0	-0	-0	-0	-0	-0	-0	-0	-0
FUEL IN		-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1		64	64	66	68	70	66	70	64	82
EXHAUST #2		85	90	93	98	98	102	104	106	121
EXHAUST #3		53	55	58	61	58	59	65	61	75
EXHAUST #4		97	99	94	98	101	100	99	103	124
EXHAUST #5		76	77	83	90	91	97	97	96	106
EXHAUST #6		32	32	33	27	39	38	43	50	67
EXHAUST STACK		40	42	43	46	47	48	49	50	58

PRESSURE PARAMETERS

OIL	(kpa)	228.6	240.5	251.1	260.4	267.7	273.4	278.3	282.3	285.4
FUEL	(kpa)	101.4	90.2	81.6	74.1	67.8	62.1	56.6	51.9	44.0

COLD START TEST @ 0 DEGREES C

RUN NUMBER		779	780	781	782	783	784	785	786	787
TEST CODE		1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY	(julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME	(military)	165339	165342	165345	165348	165351	165353	165356	165359	1654 2
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS	572EDS

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	764	838	895	926	979	1023	1106	1074	1103
TORQUE	(N-M)	19.2	20.3	19.4	19.5	20.7	24.6	22.3	20.6	21.2
POWER	(KW)	1.5	1.8	1.8	1.9	2.1	2.6	2.6	2.3	2.4
SNOKE OPACITY	(Z)	100.3	100.4	100.4	100.3	100.3	100.4	100.4	100.4	100.3

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		3	3	3	3	3	4	4	4	4
COOLANT OUT		3	3	3	4	4	5	5	5	5
OIL SUMP		3	3	3	3	3	3	4	4	4
OIL GALLERY		3	3	3	3	3	3	3	4	4
INTAKE AIR		-5	-4	-4	-4	-4	-4	-4	-3	-3
CELL AMBIENT		-3	-3	-3	-3	-3	-3	-3	-3	-3
BOOST B4 INNER COOLER		-1	-1	-1	-1	-1	-1	-0	-0	0
BOOST AF INNER COOLER		-0	-0	-0	-0	0	0	0	1	1
FUEL IN		-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1		103	110	132	143	141	147	145	143	146
EXHAUST #2		128	144	153	166	183	199	210	225	234
EXHAUST #3		92	103	114	122	124	136	136	127	123
EXHAUST #4		134	161	168	170	183	189	202	211	207
EXHAUST #5		117	127	136	151	164	172	178	184	183
EXHAUST #6		64	55	43	34	26	22	18	17	16
EXHAUST STACK		66	76	85	93	99	107	112	116	118

PRESSURE PARAMETERS

OIL	(kpa)	294.4	299.0	304.8	309.7	313.9	318.1	322.1	325.3	327.7
FUEL	(kpa)	45.8	56.0	62.5	73.1	74.5	85.8	104.7	97.9	106.0

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***
COLD START TEST @ 0 DEGREES C

RUN NUMBER	788	789	790	791	792	793	794	795	796
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME (military)	1654 5	1654 8	1654 11	1654 14	1654 17	1654 20	1654 23	1654 25	1654 28
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1145	1216	2293	2312	2319	2314	2333	2336	2342
TORQUE (N-H)	21.9	22.1	37.0	44.1	34.0	34.3	33.9	33.8	34.4
POWER (KW)	2.6	2.8	8.9	10.7	8.3	8.3	8.3	8.3	8.4
SMOKE OPACITY (Z)	100.3	100.3	93.5	44.1	25.5	23.5	22.4	20.8	20.9
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	5	5	4	3	4	4	5	7	7
COOLANT OUT	6	6	7	7	8	9	9	10	11
OIL SUMP	4	4	4	5	5	5	6	8	8
OIL GALLERY	3	3	3	3	3	3	3	4	4
INTAKE AIR	-3	-3	-3	-3	-2	-2	-2	-2	-2
CELL AMBIENT	-3	-3	-3	-2	-2	-2	-2	-2	-2
BOOST B4 INNER COOLER	0	1	1	4	7	9	10	11	12
BOOST AF INNER COOLER	1	2	2	4	7	9	10	12	13
FUEL IN	-1	-8	-8	-8	-9	-9	-9	-9	-9
EXHAUST #1	154	151	197	292	343	368	380	381	379
EXHAUST #2	244	253	284	332	349	359	360	360	357
EXHAUST #3	137	129	169	224	199	175	155	147	146
EXHAUST #4	213	219	260	336	366	385	394	397	397
EXHAUST #5	190	205	242	297	321	334	340	343	343
EXHAUST #6	16	16	78	140	98	76	65	60	57
EXHAUST STACK	124	127	146	177	190	199	204	208	210
PRESSURE PARAMETERS									
OIL (kpa)	330.7	333.9	345.8	363.9	375.6	382.2	385.9	387.7	388.2
FUEL (kpa)	168.8	103.0	99.5	108.8	114.2	118.5	109.7	110.8	111.7

COLD START TEST @ 0 DEGREES C

RUN NUMBER	797	798	799	800	801	802	803	804	805
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6023	6023	6023	6023	6023	6023	6023	6023	6023
TIME (military)	165431	165434	165437	165440	165443	165446	165449	165452	165454
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1773	1144	861	864	866	871	863	867	859
TORQUE (N-H)	23.3	9.7	8.3	15.5	17.0	17.6	17.0	16.9	17.0
POWER (KW)	4.3	1.2	7	1.5	1.5	1.6	1.5	1.5	1.5
SMOKE OPACITY (Z)	5.8	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.5
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	8	7	8	9	9	8	9	11	10
COOLANT OUT	11	12	12	13	13	13	13	13	14
OIL SUMP	9	9	9	10	10	11	11	11	11
OIL GALLERY	4	5	6	7	7	8	8	8	8
INTAKE AIR	-1	-1	-1	-1	-1	-1	-1	-1	-1
CELL AMBIENT	-2	-2	-2	-1	-1	-1	-1	-1	-1
BOOST B4 INNER COOLER	13	12	11	10	9	8	8	8	7
BOOST AF INNER COOLER	14	14	13	13	12	12	11	11	11
FUEL IN	-8	-8	-8	-8	-8	-8	-8	-8	-8
EXHAUST #1	334	248	294	191	182	175	168	162	158
EXHAUST #2	312	248	208	185	173	165	157	151	146
EXHAUST #3	128	181	86	92	98	103	106	108	109
EXHAUST #4	339	251	205	191	181	173	166	161	156
EXHAUST #5	383	239	282	188	175	166	157	151	146
EXHAUST #6	54	46	40	53	64	72	77	81	83
EXHAUST STACK	195	166	148	142	137	133	130	127	125
PRESSURE PARAMETERS									
OIL (kpa)	384.8	372.5	356.2	344.5	336.8	331.2	327.1	324.0	321.6
FUEL (kpa)	145.2	176.8	166.1	162.3	166.7	167.5	167.0	167.0	166.7

*** SYNFUEL PROJECT 03-853B
 COLD START TEST # 0 DEGREES C

TEST RESULTS ***

RUN NUMBER	806	807	808	809	810	811	812	813	814
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME (military)	85145	85148	85151	85154	85157	852 0	852 3	852 6	852 9
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-1	-1	-1	-1	6	-1	-1	2	-1
TORQUE (N-H)	-4.7	-4.7	-4.7	-6.1	-222.5	-77.3	-125.6	-36.8	-22.2
POWER (KW)	0	0	0	0	-1	0	0	-0.8	0
SMOKE OPACITY (%)	.7	.7	-2	.6	4.8	92.5	99.8	100.4	100.5

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-1	1	1	1	1	1	1	1	1
COOLANT OUT	-0	1	1	1	1	1	1	1	1
OIL SUMP	-1	-1	-1	-1	-1	-1	-1	-1	-1
OIL GALLERY	-1	-1	-1	-1	-1	-1	-1	-1	-1
INTAKE AIR	-2	-2	-2	-3	-3	-3	-4	-4	-4
CELL AMBIENT	-1	-1	-1	-1	-2	-2	-2	-2	-2
BOOST B4 INNER COOLER	0	0	0	0	0	0	0	0	0
BOOST AF INNER COOLER	-0	-0	-0	-0	-0	-0	-0	-0	-0
FUEL IN	-0	-0	-0	-0	-0	-0	-0	-0	-0
EXHAUST #1	-0	-0	0	0	0	-1	-3	3	17
EXHAUST #2	-0	-0	0	0	0	1	13	23	31
EXHAUST #3	-0	-0	0	0	-0	7	4	3	12
EXHAUST #4	-0	-0	0	0	1	19	21	28	37
EXHAUST #5	-0	-0	0	0	0	5	15	16	24
EXHAUST #6	-0	-0	0	0	0	-2	-3	4	2
EXHAUST STACK	0	0	0	0	0	4	4	7	11

PRESSURE PARAMETERS

OIL (kpa)	-7	-7	-7	-7	-8	-8	-8	-2	4.8
FUEL (kpa)	62.4	60.7	62.4	62.4	63.9	70.0	75.7	82.9	88.9

COLD START TEST # 1 DEGREES C

RUN NUMBER	815	816	817	818	819	820	821	822	823
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME (military)	85212	85216	85219	85222	85225	85228	85231	85234	85237
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	0	0	1	3	4	7	262	17	321
TORQUE (N-H)	-35.8	3.6	-19.9	9.8	13.3	14.9	15.0	14.4	15.9
POWER (KW)	-0.8	0	-0.8	0	0	0.4	0	0	0.5
SMOKE OPACITY (%)	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	0	1	0	0	0	0	0	1	1
COOLANT OUT	1	1	1	1	1	1	1	1	1
OIL SUMP	-1	-1	-1	-1	-1	-1	-1	-1	-1
OIL GALLERY	-1	-1	-1	-1	-1	-1	-1	-1	-1
INTAKE AIR	-4	-4	-4	-4	-4	-4	-4	-4	-4
CELL AMBIENT	-3	-3	-3	-3	-3	-3	-3	-3	-3
BOOST B4 INNER COOLER	-0	-0	-0	-0	-0	-0	-1	-1	-1
BOOST AF INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
FUEL IN	-0	-0	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1	22	32	37	42	49	54	55	54	58
EXHAUST #2	37	42	44	51	56	65	68	73	72
EXHAUST #3	21	29	29	34	35	39	43	46	52
EXHAUST #4	37	45	50	59	65	68	72	75	75
EXHAUST #5	33	33	34	41	47	49	51	57	58
EXHAUST #6	7	13	10	19	33	32	47	51	59
EXHAUST STACK	14	17	18	22	25	27	28	31	34

PRESSURE PARAMETERS

OIL (kpa)	22.4	41.4	58.7	82.0	99.6	117.3	134.6	151.5	167.9
FUEL (kpa)	94.5	99.0	102.3	105.6	108.3	109.7	110.5	111.4	110.8

**** SYNFUEL PROJECT 83-8538
COLD START TEST @ 0 DEGREES C

TEST RESULTS ****

RUN NUMBER	824	825	826	827	828	829	830	831	832
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME (military)	85241	85244	85247	85250	85253	85256	85259	853 2	853 6
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	5	144	315	118	353	260	327	227	141
TORQUE (N-M)	16.3	15.7	15.6	15.5	17.2	15.5	16.9	15.8	16.8
POWER (KW)	.0	.2	.5	.2	.6	.4	.6	.4	.2
SNOKE OPACITY (%)	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	1	1	1	1	1	1	1	1	2
COOLANT OUT	1	1	1	1	1	1	1	1	1
OIL SUMP	-1	-1	-1	-1	-1	-1	-1	-1	-1
OIL GALLERY	-1	-1	-1	-1	-1	-1	-1	-1	-1
INTAKE AIR	-4	-4	-4	-4	-4	-4	-4	-4	-4
CELL AMBIENT	-3	-3	-3	-3	-3	-3	-3	-3	-3
BOOST BA INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
BOOST AF INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
FUEL IN	-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1	65	64	68	68	73	67	66	71	75
EXHAUST #2	77	78	81	86	92	94	92	95	95
EXHAUST #3	58	58	59	61	57	58	61	60	61
EXHAUST #4	79	83	85	89	95	99	99	100	96
EXHAUST #5	62	68	71	75	75	81	85	86	92
EXHAUST #6	64	65	65	65	65	70	73	77	75
EXHAUST STACK	37	39	41	43	45	47	48	49	50

PRESSURE PARAMETERS

OIL (kpa)	183.2	197.6	211.0	223.2	234.3	244.1	252.4	259.9	266.3
FUEL (kpa)	95.8	85.0	76.7	70.2	63.7	58.9	54.2	50.2	47.1

COLD START TEST @ 0 DEGREES C

RUN NUMBER	833	834	835	836	837	838	839	840	841
TEST CODE	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY (julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME (military)	85310	85313	85316	85319	85323	85326	85329	85332	85335
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS	57ZEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	322	369	335	362	305	384	645	736	827
TORQUE (N-M)	15.9	17.7	17.2	17.4	16.4	16.0	22.8	28.7	28.5
POWER (KW)	.5	.7	.6	.7	.5	.6	1.5	2.2	2.5
SNOKE OPACITY (%)	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	2	2	2	2	2	2	3	3	3
COOLANT OUT	1	1	1	1	1	1	1	1	2
OIL SUMP	-0	-0	-0	-0	-0	-0	-0	0	0
OIL GALLERY	-1	-1	-1	-1	-1	-1	-1	-1	-1
INTAKE AIR	-3	-3	-3	-3	-3	-3	-3	-3	-3
CELL AMBIENT	-2	-2	-2	-2	-2	-2	-2	-2	-2
BOOST BA INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
BOOST AF INNER COOLER	-1	-1	-1	-1	-1	-1	-1	-1	-1
FUEL IN	-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1	69	70	76	83	87	84	88	77	110
EXHAUST #2	100	110	107	105	105	105	112	132	146
EXHAUST #3	61	63	59	53	54	57	63	95	106
EXHAUST #4	104	105	109	109	114	114	133	150	168
EXHAUST #5	94	92	95	90	99	100	106	124	133
EXHAUST #6	75	75	81	84	78	72	76	78	72
EXHAUST STACK	52	54	54	55	56	57	61	72	81

PRESSURE PARAMETERS

OIL (kpa)	273.7	278.1	292.0	284.8	287.1	289.0	292.3	297.1	301.3
FUEL (kpa)	44.8	48.3	55.6	62.8	70.9	78.2	86.6	72.5	62.9

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*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST # 0 DEGREES C

RUN NUMBER		842	843	844	845	846	847	848	849	850
TEST CODE		1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY	(julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME	(military)	85338	85341	85344	85347	85350	85353	85356	85359	054 2
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	873	939	956	1025	1078	1013	1080	1171	1187
TORQUE	(N-M)	28.7	28.7	30.7	33.6	34.4	32.3	33.7	33.8	31.2
POWER	(KW)	2.6	2.8	3.1	3.6	3.9	3.4	3.8	4.1	3.9
SMOKE OPACITY	(%)	100.6	100.6	100.6	100.6	100.5	100.6	100.6	100.5	100.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		3	3	3	4	4	4	4	5	5
COOLANT OUT		2	2	3	3	4	4	5	5	6
OIL SUMP		0	0	1	1	1	1	1	1	2
OIL GALLERY		-0	-0	-0	-0	-0	-0	-0	-0	0
INTAKE AIR		-2	-2	-2	-2	-2	-2	-2	-1	-1
CELL AMBIENT		-2	-2	-2	-2	-1	-1	-1	-1	-1
BOOST B4 INNER COOLER		-1	-1	-1	-1	-0	-0	0	1	1
BOOST AF INNER COOLER		-1	-0	-0	-0	0	0	1	1	2
FUEL IN		-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1		125	130	135	143	149	156	171	195	177
EXHAUST #2		164	181	192	200	212	217	232	254	251
EXHAUST #3		112	118	136	137	148	136	124	127	129
EXHAUST #4		172	174	174	188	195	193	193	209	219
EXHAUST #5		143	154	164	175	183	193	204	199	215
EXHAUST #6		72	72	57	50	45	34	34	27	23
EXHAUST STACK		90	97	105	111	118	121	126	132	135

PRESSURE PARAMETERS

OIL	(tpa)	305.5	309.7	313.6	317.3	320.9	323.6	326.2	329.4	332.2
FUEL	(kpa)	78.3	82.7	78.9	88.8	107.2	113.1	116.9	108.2	107.9

COLD START TEST # 4 DEGREES C

RUN NUMBER		851	852	853	854	855	856	857	858	859
TEST CODE		1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1	1610 1
DAY	(julian)	6024	6024	6024	6024	6024	6024	6024	6024	6024
TIME	(military)	854 5	854 8	85411	85414	85417	85420	85423	85427	85430
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	1241	1633	2310	2318	2319	2311	2326	2331	2332
TORQUE	(N-M)	33.8	37.5	67.7	51.8	50.3	48.4	49.6	47.7	50.8
POWER	(KW)	4.4	6.4	16.4	12.6	12.2	11.7	12.1	12.1	12.4
SMOKE OPACITY	(%)	100.1	100.5	66.5	47.2	36.0	33.4	31.4	26.7	24.3

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		5	5	4	5	6	6	7	8	9
COOLANT OUT		6	6	7	8	8	9	9	10	11
OIL SUMP		2	2	2	3	3	4	5	6	6
OIL GALLERY		1	1	1	1	2	2	2	2	3
INTAKE AIR		-1	-1	-1	-1	-1	-0	-0	-0	0
CELL AMBIENT		-1	-1	-1	-1	-1	-1	-1	-0	-0
BOOST B4 INNER COOLER		1	2	4	7	9	11	12	13	14
BOOST AF INNER COOLER		2	2	4	7	9	11	12	14	15
FUEL IN		-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST #1		167	174	273	327	357	378	375	372	367
EXHAUST #2		268	272	326	343	353	355	355	353	349
EXHAUST #3		143	133	241	228	206	188	177	176	199
EXHAUST #4		224	245	325	365	382	392	394	392	386
EXHAUST #5		241	253	307	327	337	341	343	342	338
EXHAUST #6		22	22	171	118	90	74	66	61	68
EXHAUST STACK		149	147	186	199	206	211	214	216	217

PRESSURE PARAMETERS

OIL	(tpa)	335.2	340.1	358.9	371.2	379.2	384.1	387.5	389.1	389.4
FUEL	(kpa)	105.7	101.8	110.9	106.2	105.2	108.0	108.4	109.4	111.4

GRAPH 15, 85, 10, 90 ZP
 AXES ON COLOR BASIC
 XAXIS ON LINEAR

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APPENDIX G
-20° C COLD START DATA

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		155	156	157	158	159	160	161	162	163
TEST CODE		1111	1111	1111	1111	1111	1111	1111	1111	1111
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115622	115625	115629	115632	115635	115638	115642	115646	115650
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-0	-0	-0	-0	19	95	33	122	19
TORQUE	(N-M)	1.5	1.5	1.5	-31.6	-333.9	-329.1	-318.3	-307.2	-292.2
POWER	(KW)	-0	-0	-0	0	-7	-3.3	-1.1	-3.9	-6
SNOKE OPACITY	(%)	.1	.1	.1	.1	.6	79.1	98.2	99.7	99.6
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-20	-18	-18	-18	-18	-18	-18	-18	-18
OIL SUMP		-17	-16	-17	-16	-16	-16	-16	-16	-15
OIL GALLERY		-16	-16	-16	-16	-16	-16	-16	-16	-16
INTAKE AIR		-22	-22	-22	-22	-21	-21	-21	-21	-21
CELL AMBIENT		-21	-21	-21	-21	-21	-20	-20	-20	-20
BOOST B4 INNER COOLER		-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-18	-18	-18	-18	-18	-19	-20	-20	-20
EXHAUST #1		-18	-18	-18	-18	-18	-19	-20	-21	-22
EXHAUST #2		-18	-18	-18	-18	-19	-20	-21	-21	-22
EXHAUST #3		-18	-18	-18	-18	-19	-19	-20	-21	-22
EXHAUST #4		-18	-18	-18	-18	-19	-20	-20	-21	-17
EXHAUST #5		-18	-18	-18	-18	-18	-19	-20	-19	-20
EXHAUST #6		-18	-18	-18	-18	-18	-19	-20	-20	-21
EXHAUST STACK		-21	-21	-21	-21	-21	-21	-21	-21	-21
PRESSURE PARAMETERS										
OIL	(kpa)	1.7	1.9	2.0	1.9	1.9	2.8	5.2	7.8	11.5
FUEL	(kpa)	75.9	75.9	75.8	77.5	89.3	96.6	101.9	103.5	102.3
RUN NUMBER		164	165	166	167	168	169	170	171	172
TEST CODE		1111	1111	1111	1111	1111	1111	1111	1111	1111
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115653	115656	115659	11572	11575	11579	115713	115716	115719
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	15	123	53	8	134	7	4	2	214
TORQUE	(N-M)	-273.1	-281.3	-265.5	-281.8	-167.6	-8.5	-97.6	-101.6	-56.5
POWER	(KW)	-4	-3.6	-1.5	-2	-2.4	-0.8	-0.8	-0.8	-1.3
SNOKE OPACITY	(%)	99.5	99.7	99.5	98.9	96.3	98.3	93.4	93.7	99.6
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-18	-18	-18	-18	-18	-18	-17	-18	-18
OIL SUMP		-15	-15	-15	-15	-15	-15	-16	-16	-16
OIL GALLERY		-16	-16	-16	-16	-16	-16	-16	-16	-16
INTAKE AIR		-21	-21	-21	-20	-20	-20	-20	-20	-20
CELL AMBIENT		-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST B4 INNER COOLER		-21	-20	-21	-21	-21	-20	-20	-20	-20
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-22	-23	-23	-24	-13	-6	0	5	18
EXHAUST #2		-23	-23	-23	-23	-12	-2	3	12	21
EXHAUST #3		-22	-23	-23	-17	-17	0	11	13	15
EXHAUST #4		-11	-8	-3	1	15	27	31	38	51
EXHAUST #5		-20	-20	-13	-4	3	22	30	28	33
EXHAUST #6		-21	-21	-21	-21	-20	21	33	28	29
EXHAUST STACK		-21	-21	-21	-20	-17	-9	-5	-2	3
PRESSURE PARAMETERS										
OIL	(kpa)	15.0	18.3	21.5	24.9	28.7	32.9	36.4	40.2	44.7
FUEL	(kpa)	102.2	103.7	102.7	103.4	104.1	107.2	105.9	103.3	107.8

*** SYN FUEL PROJECT 03-8530 TEST RESULTS ***

RUN NUMBER		173	174	175	176	177	178	179	180	181
TEST CODE		1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115722	115726	115729	115732	115736	115739	115742	115745	115749
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	238	167	223	245	210	309	338	392	664
TORQUE	(K-H)	14.5	-219.8	7.4	19.3	21.3	21.1	25.5	26.2	39.3
POWER	(KW)	.5	-3.7	.2	.5	.5	.7	.9	1.1	2.7
SMOKE OPACITY	(Z)	100.8	96.9	99.8	100.8	100.1	100.0	99.9	100.1	100.1

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-18	-18	-18	-18	-18	-17	-17	-17	-17
OIL SUMP		-17	-17	-17	-17	-17	-17	-16	-16	-16
OIL GALLERY		-16	-16	-16	-16	-17	-17	-17	-17	-17
INTAKE AIR		-20	-20	-20	-20	-20	-19	-19	-19	-19
CELL AMBIENT		-20	-20	-20	-20	-20	-20	-20	-20	-19
BOOST B4 INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-20	-20	-19
FUEL IN		-18	-18	-18	-18	-18	-18	-18	-18	-18
EXHAUST #1		23	23	37	42	47	55	64	65	82
EXHAUST #2		25	25	27	37	45	54	63	70	83
EXHAUST #3		26	27	31	38	49	55	62	67	83
EXHAUST #4		69	67	77	67	91	96	100	106	123
EXHAUST #5		37	42	53	57	71	74	81	89	105
EXHAUST #6		61	62	88	102	112	113	129	162	194
EXHAUST STACK		11	13	19	23	27	29	34	41	53

PRESSURE PARAMETERS										
OIL	(tpa)	49.2	53.4	59.0	64.1	69.0	75.3	81.3	88.3	94.2
FUEL	(tpa)	111.8	107.5	112.0	113.4	114.6	114.5	116.6	119.4	115.2

RUN NUMBER		182	183	184	185	186	187	188	189	190
TEST CODE		1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1	1111.1
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115752	115755	115758	1158.1	1158.5	1158.8	1158.11	1158.15	1158.18
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	746	865	991	1247	2340	2761	2370	2302	2391
TORQUE	(K-H)	42.8	47.6	50.2	61.1	116.0	102.5	101.0	101.8	101.3
POWER	(KW)	3.3	4.3	5.2	8.8	26.0	25.3	25.1	25.4	25.4
SMOKE OPACITY	(Z)	100.1	100.1	100.0	99.2	58.6	41.8	52.0	43.1	26.0

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-18	-18	-17	-16	-16	-15
COOLANT OUT		-17	-16	-16	-16	-16	-15	-14	-13	-12
OIL SUMP		-16	-15	-15	-14	-14	-13	-12	-11	-10
OIL GALLERY		-17	-17	-17	-16	-16	-16	-16	-16	-16
INTAKE AIR		-19	-19	-19	-19	-19	-19	-18	-17	-17
CELL AMBIENT		-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST B4 INNER COOLER		-20	-20	-20	-19	-19	-1	2	4	6
BOOST AF INNER COOLER		-20	-20	-19	-19	-19	-15	-12	-10	-8
FUEL IN		-18	-18	-17	-17	-17	-17	-17	-17	-17
EXHAUST #1		183	124	143	161	267	283	284	280	275
EXHAUST #2		99	116	129	165	271	268	263	258	253
EXHAUST #3		99	114	128	147	261	267	267	264	260
EXHAUST #4		137	153	153	161	278	287	288	286	285
EXHAUST #5		122	135	149	165	273	278	279	277	273
EXHAUST #6		198	186	192	202	313	290	292	301	310
EXHAUST STACK		62	73	83	99	162	173	180	185	188

PRESSURE PARAMETERS										
OIL	(tpa)	115.0	114.2	121.8	130.4	144.3	154.1	165.3	176.6	180.4
FUEL	(tpa)	117.9	125.8	124.6	130.9	144.1	154.1	162.6	163.6	164.9

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****

RUN NUMBER		191	192	193	194	195	196	197	198	199
TEST CODE		1111	1111	1111	1111	1111	1111	1111	1111	1111
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115822	115825	115828	115831	115834	115838	115841	115845	115848
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2396	1921	1431	997	859	856	853	852	856
TORQUE	(N-M)	101.5	81.4	69.8	58.4	43.8	47.1	46.9	46.5	46.1
POWER	(KW)	25.5	15.5	10.5	6.1	3.9	4.2	4.2	4.1	4.1
SMOKE OPACITY	(%)	18.0	11.5	2.1	1.7	1.3	1.4	1.4	1.6	1.5
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-14	-13	-13	-12	-12	-12	-11	-11	-11
COOLANT OUT		-12	-11	-10	-10	-9	-9	-8	-8	-8
OIL SUMP		-9	-8	-8	-8	-7	-7	-8	-8	-7
OIL GALLERY		-16	-15	-15	-15	-14	-14	-13	-13	-12
INTAKE AIR		-16	-16	-15	-15	-15	-15	-15	-15	-15
CELL AMBIENT		-18	-18	-18	-17	-17	-17	-17	-17	-17
BOOST B4 INNER COOLER		7	6	2	-2	-4	-5	-6	-7	-8
BOOST AF INNER COOLER		-6	-4	-5	-5	-6	-7	-7	-8	-8
FUEL IN		-18	-18	-18	-18	-18	-18	-19	-18	-18
EXHAUST #1		272	225	195	173	149	146	143	140	138
EXHAUST #2		248	206	178	157	137	133	129	126	125
EXHAUST #3		256	209	180	161	148	139	138	137	136
EXHAUST #4		283	231	205	181	159	156	153	151	150
EXHAUST #5		269	229	191	168	146	144	142	140	139
EXHAUST #6		314	256	217	182	158	155	151	148	146
EXHAUST STACK		198	185	158	136	124	122	120	119	118
PRESSURE PARAMETERS										
OIL	(kpa)	202.9	216.8	228.8	237.6	245.3	254.8	261.1	268.7	274.9
FUEL	(kpa)	186.7	114.6	147.2	170.8	171.8	178.6	178.8	178.9	171.1
RUN NUMBER		200	201	202	203	204	205	206	207	208
TEST CODE		1111	1111	1111	1111	1111	1111	1111	1111	1111
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	115851	115854	115857	1159	1159	1159	1159	1159	1159
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	852	849	842	848	844	195	1	0	0
TORQUE	(N-M)	47.2	46.2	47.2	46.3	45.5	24.7	5.1	2.3	2.2
POWER	(KW)	4.2	4.1	4.2	4.1	4.8	.5	.8	.8	.8
SMOKE OPACITY	(%)	1.6	1.7	1.7	1.5	1.5	.3	.1	.1	.1
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-10	-10	-10	-10	-9	-9	-9	-9	-9
COOLANT OUT		-7	-7	-7	-7	-6	-6	-6	-6	-7
OIL SUMP		-7	-7	-7	-7	-6	-6	-6	-6	-7
OIL GALLERY		-12	-11	-11	-10	-10	-10	-10	-9	-9
INTAKE AIR		-15	-15	-15	-15	-15	-15	-15	-15	-15
CELL AMBIENT		-16	-16	-16	-16	-16	-16	-16	-16	-16
BOOST B4 INNER COOLER		-8	-8	-9	-9	-9	-10	-10	-10	-10
BOOST AF INNER COOLER		-9	-9	-9	-9	-10	-10	-10	-10	-10
FUEL IN		-18	-18	-18	-18	-18	-17	-17	-18	-18
EXHAUST #1		137	136	135	134	134	117	108	106	103
EXHAUST #2		123	122	121	121	120	115	99	97	96
EXHAUST #3		135	135	134	134	133	115	106	105	102
EXHAUST #4		149	148	148	147	147	128	119	117	115
EXHAUST #5		138	137	136	136	135	117	107	105	103
EXHAUST #6		145	143	142	141	140	121	114	111	108
EXHAUST STACK		117	116	116	115	115	105	100	98	96
PRESSURE PARAMETERS										
OIL	(kpa)	288.6	266.5	291.8	296.2	300.1	300.5	283.1	257.6	273.4
FUEL	(kpa)	171.2	171.1	171.5	171.5	173.3	148.7	184.3	98.4	93.8

*** SYNFUEL PROJECT 83-8538 TEST RESULTS ***

RUN NUMBER		209	210	211	212	213	214	215	216	217
TEST CODE		1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	162013	162016	162019	162023	162026	162029	162032	162035	162039
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-0	-0	-0	60	243	204	141	88	125
TORQUE	(N-M)	.5	.5	.6	-232.1	-332.0	-261.7	-219.9	-188.8	-165.5
POWER	(KW)	-0.8	-0.8	-0.8	-1.5	-8.4	-5.6	-3.2	-1.7	-2.2
SMOKE OPACITY	(Z)	.1	.1	.1	.2	53.3	95.6	97.4	97.8	98.4

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-19	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP		-17	-17	-17	-17	-17	-17	-16	-16	-15
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-21	-21	-21	-21	-22	-23	-23	-23	-24
CELL AMBIENT		-22	-22	-22	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-18	-18	-18	-18	-19	-8	1	5	8
EXHAUST #2		-18	-18	-18	-18	-12	-4	-4	1	6
EXHAUST #3		-18	-18	-18	-18	-19	-10	-3	2	2
EXHAUST #4		-18	-18	-18	-18	-19	-8	13	21	24
EXHAUST #5		-18	-18	-18	-18	-19	-7	9	12	21
EXHAUST #6		-18	-18	-18	-18	-19	-20	-6	6	13
EXHAUST STACK		-18	-18	-18	-18	-18	-14	-9	-6	-3

PRESSURE PARAMETERS										
OIL	(lpa)	6.2	6.2	6.1	6.1	7.1	10.0	12.9	15.8	18.9
FUEL	(lpa)	93.8	93.8	93.8	93.7	104.7	106.0	105.8	105.8	106.0

RUN NUMBER		218	219	220	221	222	223	224	225	226
TEST CODE		1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	162042	162045	162048	162051	162055	162058	1621 1	1621 5	1621 8
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	17	227	118	9	226	233	271	302	303
TORQUE	(N-M)	-170.1	-222.9	-166.9	-19.7	-34.7	13.2	17.5	19.8	19.6
POWER	(KW)	-2	-5.2	-2.1	-0.8	-8	3	5	6	6
SMOKE OPACITY	(Z)	94.6	98.5	98.9	97.9	99.7	99.9	99.9	99.9	100.0

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-17	-17	-16	-16	-17	-17	-16	-17	-16
OIL SUMP		-15	-16	-16	-16	-16	-16	-16	-16	-16
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-24	-24	-24	-24	-24	-24	-25	-25	-25
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-19	-19	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		13	20	21	25	30	38	52	57	62
EXHAUST #2		11	18	17	24	29	38	45	54	64
EXHAUST #3		5	8	17	31	33	39	44	52	56
EXHAUST #4		30	38	48	46	55	65	77	84	91
EXHAUST #5		25	28	32	42	46	62	70	73	81
EXHAUST #6		16	21	29	48	51	64	88	119	144
EXHAUST STACK		-1	1	6	11	14	18	25	28	33

PRESSURE PARAMETERS										
OIL	(lpa)	22.0	25.3	28.6	31.9	35.7	39.9	44.1	48.7	53.3
FUEL	(lpa)	105.8	107.7	107.2	105.9	109.5	111.1	112.7	113.7	115.1

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***										
RUN NUMBER		227	228	229	230	231	232	233	234	235
TEST CODE		1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	162111	162114	162118	162121	162124	162128	162131	162134	162138
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	340	366	341	625	812	970	1178	2354	2371
TORQUE	(N-M)	19.4	22.1	22.2	32.6	48.8	46.0	53.3	99.5	94.8
POWER	(KW)	.7	.8	.6	2.1	3.5	4.7	6.6	24.5	23.5
SMOKE OPACITY	(%)	100.0	100.0	99.9	180.0	99.9	99.9	99.6	52.3	35.4
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-20	-20	-20	-20	-19	-18	-17
COOLANT OUT		-16	-16	-16	-16	-15	-15	-15	-15	-14
OIL SUMP		-16	-16	-16	-16	-15	-15	-14	-14	-13
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-25	-25	-25	-25	-25	-25	-25	-25	-24
CELL AMBIENT		-23	-24	-24	-24	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER		-21	-21	-21	-21	-21	-21	-21	-17	-1
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-15
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		69	79	84	89	107	130	149	242	273
EXHAUST #2		68	78	84	103	115	128	147	254	261
EXHAUST #3		59	66	76	84	104	127	144	245	262
EXHAUST #4		76	104	107	129	160	196	193	288	293
EXHAUST #5		85	88	93	102	129	140	155	263	275
EXHAUST #6		159	180	199	213	205	200	200	303	302
EXHAUST STACK		39	45	51	58	68	81	93	153	170
PRESSURE PARAMETERS										
OIL	(kpa)	58.4	63.4	68.6	74.7	82.1	89.8	97.5	106.7	115.0
FUEL	(kpa)	115.5	117.6	118.4	120.3	114.0	115.4	92.5	87.4	94.2
RUN NUMBER		236	237	238	239	240	241	242	243	244
TEST CODE		1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2	1111 2
DAY	(julian)	5323	5323	5323	5323	5323	5323	5323	5323	5323
TIME	(military)	162141	162144	162147	162151	162154	162157	1622 0	1622 3	1622 6
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	1985	992	819	823	826	825	823	820	823
TORQUE	(N-M)	91.2	47.8	36.4	41.5	41.8	41.5	41.3	41.2	48.9
POWER	(KW)	19.8	5.3	3.1	3.6	3.6	3.6	3.6	3.5	3.5
SMOKE OPACITY	(%)	29.1	4.8	1.5	1.5	1.7	1.9	2.0	2.1	2.2
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-16	-16	-15	-15	-15	-15	-15	-14	-14
COOLANT OUT		-14	-13	-13	-12	-12	-12	-11	-11	-11
OIL SUMP		-12	-11	-11	-10	-10	-10	-10	-10	-10
OIL GALLERY		-17	-17	-17	-16	-16	-16	-16	-16	-16
INTAKE AIR		-24	-23	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT		-24	-24	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		1	-5	-9	-11	-12	-13	-14	-15	-15
BOOST AF INNER COOLER		-13	-12	-12	-12	-13	-13	-13	-13	-14
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		275	186	155	146	140	135	131	128	125
EXHAUST #2		255	177	149	141	135	131	129	126	124
EXHAUST #3		287	172	144	141	138	137	136	135	135
EXHAUST #4		265	191	164	161	159	158	157	156	155
EXHAUST #5		272	185	158	153	151	150	149	147	146
EXHAUST #6		296	283	174	169	164	168	157	154	153
EXHAUST STACK		174	130	114	111	109	108	107	106	106
PRESSURE PARAMETERS										
OIL	(kpa)	133.6	131.9	139.7	142.2	152.3	165.6	173.9	182.3	190.8
FUEL	(kpa)	123.4	158.4	155.2	155.1	155.8	159.2	158.9	159.7	168.8

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		245	246	247	248	249	250	251	252	253
TEST CODE		1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	125724	125727	125732	125736	125740	125744	125747	125750	125754
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE	(N-M)	.1	.1	-96.9	-348.2	-284.2	-246.4	-197.4	-171.3	-124.3
POWER	(KW)	-0	-0	0	0	0	0	0	0	0
SMOKE OPACITY	(%)	-0	-0	.1	85.1	99.2	99.8	99.9	99.9	99.8

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-20	-17	-18	-18	-18	-18	-18	-17	-18
OIL SUMP		-19	-19	-19	-19	-19	-20	-20	-19	-19
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR		-22	-22	-22	-23	-23	-24	-24	-24	-25
CELL AMBIENT		-23	-23	-23	-23	-23	-24	-24	-24	-24
BOOST B4 INNER COOLER		-19	-19	-19	-19	-19	-19	-20	-20	-20
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-20	-20	-20	-20
EXHAUST #1		-19	-19	-19	-20	-21	-22	-23	-13	-15
EXHAUST #2		-19	-19	-19	-20	-19	-18	-18	-16	-8
EXHAUST #3		-19	-19	-19	-20	2	10	19	27	28
EXHAUST #4		-19	-19	-19	-20	-21	-22	-22	-22	-11
EXHAUST #5		-19	-19	-19	-20	-22	-23	-11	-4	9
EXHAUST #6		-19	-19	-19	-20	-21	-22	-22	-22	-22
EXHAUST STACK		-18	-18	-18	-19	-17	-16	-14	-12	-10

PRESSURE PARAMETERS										
OIL	(kpa)	3.3	3.4	3.4	4.1	6.7	10.1	12.8	15.4	18.3
FUEL	(kpa)	96.7	96.7	108.4	111.7	110.6	119.5	109.2	109.7	109.2

RUN NUMBER		254	255	256	257	258	259	260	261	262
TEST CODE		1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	125737	1258 0	1258 3	1258 8	125812	125815	125819	125823	125828
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	7	2	-8	355	339	354	618	775
TORQUE	(N-M)	-109.3	-84.2	-8.7	9.1	-8.4	17.8	21.6	28.8	34.0
POWER	(KW)	0	-1	-0	-0	-3	6	8	19	28
SMOKE OPACITY	(%)	99.8	99.8	99.9	99.5	99.8	99.9	99.9	99.9	99.9

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-20	-20
COOLANT OUT		-18	-17	-18	-17	-18	-17	-17	-17	-17
OIL SUMP		-19	-19	-19	-19	-19	-19	-19	-18	-18
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR		-25	-25	-25	-25	-25	-26	-26	-26	-26
CELL AMBIENT		-24	-24	-24	-24	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER		-20	-20	-20	-20	-20	-21	-21	-21	-22
BOOST AF INNER COOLER		-19	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		-16	-17	-9	-5	-8	-5	-1	8	65
EXHAUST #2		6	16	30	35	40	53	65	98	127
EXHAUST #3		34	48	46	52	70	76	81	93	127
EXHAUST #4		-18	-7	9	21	36	56	78	97	134
EXHAUST #5		38	36	51	59	71	88	95	103	151
EXHAUST #6		-22	6	33	62	83	121	151	173	170
EXHAUST STACK		-6	-3	3	9	16	26	32	41	64

PRESSURE PARAMETERS										
OIL	(kpa)	21.2	24.2	27.7	32.3	36.6	40.9	45.6	51.1	58.9
FUEL	(kpa)	110.1	110.8	111.6	111.6	113.7	117.3	118.4	119.9	122.1

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****

RUN NUMBER	263	264	265	266	267	268	269	270	271
TEST CODE	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3
DAY (julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME (military)	125831	125835	125839	125842	125846	125849	125853	125856	1259 1
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	873	1056	2230	2363	2372	2384	2388	2391	1835
TORQUE (N-M)	36.2	39.5	55.0	67.8	59.6	59.0	59.8	58.7	51.3
POWER (KW)	3.3	4.4	12.8	16.6	14.8	14.7	14.8	14.7	9.9
SMOKE OPACITY (Z)	99.9	99.9	97.8	43.6	38.0	32.5	28.7	28.1	23.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-20	-19	-19	-18	-18	-17	-16	-15	-15
COOLANT OUT	-17	-16	-16	-15	-15	-14	-13	-12	-12
OIL SUMP	-18	-18	-17	-16	-15	-13	-11	-10	-10
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-26	-26	-26	-26	-26	-25	-24	-23	-23
CELL AMBIENT	-24	-24	-25	-25	-25	-25	-25	-24	-24
BOOST B4 INNER COOLER	-22	-22	-20	-3	-1	0	1	2	3
BOOST AF INNER COOLER	-20	-20	-20	-17	-15	-12	-10	-8	-7
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	94	122	153	267	276	275	269	264	258
EXHAUST #2	133	142	156	256	259	254	248	244	241
EXHAUST #3	137	150	170	267	267	261	254	250	247
EXHAUST #4	134	136	156	270	274	275	274	272	269
EXHAUST #5	156	165	184	277	278	274	268	264	261
EXHAUST #6	183	185	206	291	277	271	266	262	274
EXHAUST STACK	75	86	103	154	165	173	176	177	179

PRESSURE PARAMETERS

OIL (kpa)	64.2	69.1	75.1	79.6	85.2	90.6	96.4	102.0	109.9
FUEL (kpa)	123.5	111.9	98.1	98.5	98.4	100.5	103.6	103.2	108.7

RUN NUMBER	272	273	274	275	276	277	278	279	280
TEST CODE	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3	1111 3
DAY (julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME (military)	1259 4	1259 7	125911	125914	125917	125921	125924	125927	125931
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	987	844	849	847	849	845	848	846	337
TORQUE (N-M)	29.3	30.5	34.3	34.2	34.4	34.9	34.3	34.1	22.8
POWER (KW)	3.0	2.7	3.8	3.8	3.1	3.1	3.0	3.0	.8
SMOKE OPACITY (Z)	2.7	.9	.9	1.0	1.1	1.1	1.2	1.3	.3

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-14	-13	-13	-13	-13	-13	-12	-12	-12
COOLANT OUT	-11	-10	-10	-10	-9	-9	-9	-9	-9
OIL SUMP	-8	-8	-8	-8	-8	-8	-8	-8	-8
OIL GALLERY	-19	-18	-18	-18	-17	-17	-17	-16	-16
INTAKE AIR	-22	-23	-23	-23	-23	-23	-23	-24	-24
CELL AMBIENT	-24	-24	-24	-24	-24	-24	-24	-24	-23
BOOST B4 INNER COOLER	-3	-6	-8	-10	-11	-12	-12	-13	-13
BOOST AF INNER COOLER	-7	-8	-8	-9	-10	-10	-11	-11	-11
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	163	138	135	132	129	128	126	126	117
EXHAUST #2	156	134	130	126	124	122	121	120	111
EXHAUST #3	155	134	134	134	133	133	133	134	123
EXHAUST #4	167	145	144	144	143	144	143	144	133
EXHAUST #5	165	143	140	138	136	135	134	134	123
EXHAUST #6	173	148	144	140	136	133	129	128	118
EXHAUST STACK	129	115	113	112	110	110	109	109	104

PRESSURE PARAMETERS

OIL (kpa)	115.7	121.4	127.6	134.2	140.5	147.3	153.6	160.0	166.5
FUEL (kpa)	170.7	165.1	165.9	166.7	167.3	167.1	168.4	166.6	154.8

*** SYN FUEL PROJECT 83-8538		TEST RESULTS ***								
RUN NUMBER		281	282	283	284	285	286	287	288	289
TEST CODE		1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	1628 3	1628 6	1628 1	1628 13	1628 17	1628 21	1628 26	1628 29	1628 33
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-0	-0	-0	1	3	5	1	12	325
TORQUE	(N-m)	-2.7	-2.7	-1.5	-219.7	-79.4	-20.9	18.1	13.5	16.8
POWER	(KW)	-0	-0	-0	-0	-0	-0	0	0	5
SMOKE OPACITY	(Z)	-1	-1	0	85.7	98.3	99.8	99.8	99.8	99.9
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT		-19	-17	-17	-17	-17	-17	-17	-16	-17
OIL SUMP		-17	-17	-17	-16	-15	-14	-14	-15	-15
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-21	-21	-21	-22	-23	-23	-24	-24	-24
CELL AMBIENT		-22	-22	-22	-22	-22	-23	-23	-23	-23
BOOST B4 INNER COOLER		-18	-18	-18	-18	-19	-19	-19	-19	-19
BOOST AF INNER COOLER		-18	-18	-18	-18	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-18	-18	-18	-20	-19	17	32	40	50
EXHAUST #2		-18	-16	-18	-18	7	29	38	49	58
EXHAUST #3		-18	-18	-18	-7	9	27	34	41	50
EXHAUST #4		-18	-18	-18	-9	9	31	42	50	60
EXHAUST #5		-18	-18	-18	-10	8	30	39	52	62
EXHAUST #6		-18	-18	-18	-19	-11	16	59	72	92
EXHAUST STACK		-18	-18	-18	-14	-6	7	16	24	28
PRESSURE PARAMETERS										
OIL	(kpa)	2.8	2.8	2.8	2.7	4.2	7.7	11.5	14.8	18.6
FUEL	(kpa)	64.8	63.9	74.1	95.4	106.6	111.5	113.2	114.8	116.1
RUN NUMBER		290	291	292	293	294	295	296	297	298
TEST CODE		1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	162836	162840	162845	162848	162851	162855	162858	1629 2	1629 6
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2	COND F2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	390	478	698	792	947	1199	2355	2372	2381
TORQUE	(N-m)	17.9	18.5	24.5	28.2	29.6	36.7	71.8	51.2	58.6
POWER	(KW)	7	9	1.8	2.3	2.9	4.6	17.7	12.7	12.6
SMOKE OPACITY	(Z)	99.9	99.9	99.9	99.8	99.8	99.5	49.1	28.4	29.9
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-18	-17	-16
COOLANT OUT		-16	-16	-16	-16	-16	-16	-15	-14	-13
OIL SUMP		-15	-15	-15	-14	-14	-14	-13	-12	-11
OIL GALLERY		-17	-17	-17	-17	-17	-17	-18	-18	-17
INTAKE AIR		-24	-24	-25	-25	-25	-25	-25	-25	-24
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-20	-20	-20	-20	-21	-20	-11	-1	1
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-15	-12
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		59	66	89	114	133	149	257	269	270
EXHAUST #2		69	79	104	124	134	145	265	257	251
EXHAUST #3		63	73	93	112	125	140	261	262	257
EXHAUST #4		86	98	119	136	138	150	272	273	274
EXHAUST #5		76	91	144	149	153	167	275	274	270
EXHAUST #6		132	171	183	184	189	200	316	287	277
EXHAUST STACK		35	45	63	75	84	97	159	167	174
PRESSURE PARAMETERS										
OIL	(kpa)	21.5	26.5	32.5	37.5	42.8	46.8	52.4	59.3	65.1
FUEL	(kpa)	118.6	128.4	122.7	128.2	127.9	111.5	99.1	101.1	100.2

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		299	300	301	302	303	304	305	306	307
TEST CODE		1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	162910	162915	162920	162926	162930	162934	162937	162941	162946
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2388	2400	2413	2413	2409	1580	877	873	976
TORQUE	(N-M)	50.6	50.1	49.9	51.8	50.9	32.9	18.7	26.1	26.6
POWER	(KW)	12.7	12.6	12.6	12.9	12.8	5.4	1.7	2.4	2.4
SMOKE OPACITY	(%)	32.2	28.3	23.0	19.7	15.5	12.5	1.6	.9	1.1
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-15	-14	-13	-12	-11	-10	-10	-9	-9
COOLANT OUT		-13	-12	-10	-9	-8	-7	-7	-6	-6
OIL SUMP		-18	-8	-7	-6	-5	-4	-4	-4	-5
OIL GALLERY		-17	-16	-15	-15	-13	-12	-11	-11	-10
INTAKE AIR		-23	-23	-22	-21	-21	-21	-19	-21	-21
CELL AMBIENT		-23	-23	-23	-23	-23	-22	-22	-22	-22
BOOST B4 INNER COOLER		2	3	4	5	5	4	-1	-4	-6
BOOST AF INNER COOLER		-10	-7	-6	-4	-3	-3	-4	-4	-6
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		266	259	253	248	245	198	144	132	132
EXHAUST #2		244	238	235	229	226	182	137	125	122
EXHAUST #3		250	244	238	235	232	184	133	125	124
EXHAUST #4		273	268	264	261	259	203	149	140	141
EXHAUST #5		265	258	253	252	249	197	145	134	130
EXHAUST #6		271	272	275	276	278	218	160	148	142
EXHAUST STACK		177	179	180	180	181	155	126	119	117
PRESSURE PARAMETERS										
OIL	(kpa)	73.8	84.0	95.8	108.7	123.4	133.1	141.7	149.2	163.2
FUEL	(kpa)	102.6	106.3	106.1	109.2	107.9	157.1	174.3	173.5	172.0
RUN NUMBER		308	309	310	311	312	313	314	315	316
TEST CODE		1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4	1111 4
DAY	(julian)	5325	5325	5325	5325	5325	5325	5325	5325	5325
TIME	(military)	162949	162952	162956	1630 1	1630 7	163012	163016	163021	163026
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	872	685	1	0	-8	-8	-0	-0	-8
TORQUE	(N-M)	26.6	24.4	6.3	-2.3	-2.4	-2.5	-2.5	-2.5	-2.5
POWER	(KW)	2.4	1.5	.0	-.0	.0	.8	.0	.0	.0
SMOKE OPACITY	(%)	1.1	.3	-.8	-.2	.5	.3	.3	.4	.3
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-9	-8	-8	-8	-8	-8	-8	-8	-8
COOLANT OUT		-5	-5	-5	-5	-5	-5	-5	-5	-5
OIL SUMP		-5	-5	-4	-4	-5	-5	-5	-6	-6
OIL GALLERY		-18	-9	-9	-6	-6	-6	-6	-6	-6
INTAKE AIR		-22	-22	-22	-22	-22	-22	-22	-22	-22
CELL AMBIENT		-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER		-7	-8	-9	-8	-8	-8	-8	-9	-9
BOOST AF INNER COOLER		-6	-7	-7	-8	-8	-9	-9	-10	-10
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		130	127	108	101	99	95	94	98	87
EXHAUST #2		129	117	100	96	94	92	91	88	85
EXHAUST #3		125	121	102	97	95	92	90	87	85
EXHAUST #4		142	138	117	112	109	106	105	102	99
EXHAUST #5		129	125	106	100	97	94	92	88	85
EXHAUST #6		136	128	108	103	100	96	94	90	87
EXHAUST STACK		116	113	103	98	94	90	88	85	82
PRESSURE PARAMETERS										
OIL	(kpa)	171.3	179.2	185.7	176.6	164.3	152.4	145.5	135.8	128.0
FUEL	(kpa)	172.6	176.8	122.9	95.0	91.4	89.8	89.1	88.4	87.7

**** SYNFUEL PROJECT 03-8538		TEST RESULTS ****									
RUN NUMBER		317	318	319	320	321	322	323	324	325	
TEST CODE		1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326	
TIME	(military)	182659	1827 2	1827 6	1827 9	182712	182716	182719	182725	182730	
PHASE		1	1	1	1	1	1	1	1	1	
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	
ENGINE PARAMETERS											
ENGINE SPEED	(rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1	
TORQUE	(N-M)	-2.2	-3	-2	12.8	-299.9	-243.9	-257.7	-32.6	-44.8	
POWER	(KW)	.8	.8	.8	-8	.8	.8	.8	.8	.8	
SMOKE OPACITY	(%)	.8	.8	.8	.8	55.2	97.5	99.4	99.8	99.2	
TEMPERATURE PARAMETERS (deg.c)											
COOLANT IN		-19	-19	-19	-19	-19	-19	-19	-19	-19	
COOLANT OUT		-19	-17	-18	-18	-18	-18	-18	-18	-18	
OIL SUMP		-19	-19	-19	-19	-19	-19	-19	-19	-19	
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-19	-19	
INTAKE AIR		-23	-23	-23	-23	-24	-24	-25	-25	-26	
CELL AMBIENT		-24	-24	-25	-25	-25	-25	-25	-25	-25	
BOOST B4 INNER COOLER		-19	-19	-19	-20	-20	-20	-20	-20	-20	
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-20	-20	-20	-20	
FUEL IN		-19	-19	-19	-19	-19	-20	-20	-20	-20	
EXHAUST #1		-19	-19	-19	-19	-20	-22	-8	8	35	
EXHAUST #2		-19	-19	-19	-19	-20	-13	-1	26	38	
EXHAUST #3		-19	-19	-19	-19	-20	-21	-10	16	29	
EXHAUST #4		-19	-19	-19	-20	-12	4	15	30	52	
EXHAUST #5		-19	-19	-19	-19	-20	-10	-1	24	39	
EXHAUST #6		-19	-19	-19	-18	-19	-20	-7	26	80	
EXHAUST STACK		-19	-19	-19	-20	-19	-16	-8	3	16	
PRESSURE PARAMETERS											
OIL	(kpa)	1.3	1.3	1.3	1.3	1.2	1.3	2.2	5.6	9.8	
FUEL	(kpa)	33.4	33.4	33.4	35.1	51.2	75.5	96.6	109.7	110.2	
RUN NUMBER		326	327	328	329	330	331	332	333	334	
TEST CODE		1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326	
TIME	(military)	182734	182737	182741	182744	182748	182752	182755	182759	1828 2	
PHASE		1	1	1	1	1	1	1	1	1	
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	
ENGINE PARAMETERS											
ENGINE SPEED	(rpm)	2	-8	17	371	457	738	875	1065	2060	
TORQUE	(N-M)	-14.5	-4.7	18.6	17.2	18.8	29.6	31.1	35.1	49.9	
POWER	(KW)	-8	.8	.8	.7	.9	2.2	2.8	3.9	16.6	
SMOKE OPACITY	(%)	97.8	99.8	99.7	100.0	100.0	99.9	99.9	99.9	94.9	
TEMPERATURE PARAMETERS (deg.c)											
COOLANT IN		-19	-19	-19	-19	-20	-20	-21	-20	-19	
COOLANT OUT		-18	-18	-18	-17	-17	-17	-17	-16	-17	
OIL SUMP		-19	-19	-19	-19	-19	-18	-18	-18	-17	
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-19	-19	
INTAKE AIR		-26	-26	-26	-26	-26	-26	-26	-26	-26	
CELL AMBIENT		-25	-25	-25	-25	-25	-25	-25	-25	-25	
BOOST B4 INNER COOLER		-21	-21	-21	-21	-21	-22	-22	-22	-20	
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20	
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20	
EXHAUST #1		39	43	50	61	73	94	122	141	170	
EXHAUST #2		44	53	72	75	91	112	126	139	165	
EXHAUST #3		35	41	47	57	70	91	112	129	161	
EXHAUST #4		74	81	86	109	127	146	160	170	189	
EXHAUST #5		51	59	67	77	89	108	129	144	180	
EXHAUST #6		85	96	118	150	184	228	244	230	252	
EXHAUST STACK		28	23	27	36	46	64	78	98	113	
PRESSURE PARAMETERS											
OIL	(kpa)	13.1	15.8	18.9	22.2	26.2	31.7	35.6	39.8	44.1	
FUEL	(kpa)	111.6	111.5	114.8	117.5	120.8	123.8	126.8	103.8	84.9	

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****

RUN NUMBER		335	336	337	338	339	340	341	342	343
TEST CODE		1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	1028 6	1028 9	102812	102816	102820	102823	102827	102830	102835
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2367	2376	2382	2387	2395	2402	2413	2411	2412
TORQUE	(N-M)	65.3	57.1	56.9	55.0	55.5	56.3	56.2	56.0	56.9
POWER	(KW)	16.2	14.2	14.2	13.7	13.9	14.2	14.2	14.1	14.4
SMOKE OPACITY	(%)	23.5	18.2	23.6	23.1	27.2	25.6	18.1	15.7	13.3
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-18	-17	-17	-16	-15	-14	-13	-12
COOLANT OUT		-16	-15	-14	-14	-13	-12	-11	-10	-10
OIL SURF		-16	-15	-13	-12	-10	-10	-9	-9	-7
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-18	-18
INTAKE AIR		-26	-25	-24	-23	-22	-21	-21	-21	-19
CELL AMBIENT		-25	-25	-25	-25	-24	-24	-24	-24	-23
BOOST B4 INNER COOLER		-2	-1	1	2	3	4	5	5	6
BOOST A4 INNER COOLER		-17	-15	-12	-10	-8	-7	-6	-5	-4
FUEL IN		-29	-20	-20	-24	-20	-20	-20	-20	-20
EXHAUST #1		271	276	273	268	263	257	254	251	248
EXHAUST #2		258	256	250	246	240	237	234	231	228
EXHAUST #3		257	260	254	250	244	241	237	235	232
EXHAUST #4		278	279	276	273	270	267	263	261	259
EXHAUST #5		272	272	268	264	259	255	253	252	250
EXHAUST #6		308	295	289	284	286	289	293	293	294
EXHAUST STACK		163	172	176	179	180	181	182	183	183
PRESSURE PARAMETERS										
OIL	(kpa)	47.7	51.6	55.7	59.8	65.3	70.3	76.5	82.4	91.4
FUEL	(kpa)	91.3	94.5	97.7	99.2	98.7	99.3	100.0	99.9	100.9

RUN NUMBER		344	345	346	347	348	349	350	351	352
TEST CODE		1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5	1111 5
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	102838	102842	102845	102849	102852	102855	102858	1029 1	1029 5
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2	CONDF2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2409	2411	2413	1699	887	865	865	869	869
TORQUE	(N-M)	55.1	55.7	55.3	41.4	21.9	27.1	30.5	31.2	30.5
POWER	(KW)	14.2	14.1	14.0	7.4	2.0	2.5	2.8	2.8	2.8
SMOKE OPACITY	(%)	14.7	12.2	13.3	17.9	2.5	1.1	1.0	1.1	1.1
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-11	-11	-10	-9	-8	-8	-8	-8	-8
COOLANT OUT		-9	-8	-7	-7	-6	-5	-5	-5	-5
OIL SURF		-6	-5	-4	-4	-3	-3	-4	-5	-5
OIL GALLERY		-17	-16	-15	-13	-12	-12	-12	-11	-10
INTAKE AIR		-20	-19	-18	-18	-18	-18	-18	-18	-18
CELL AMBIENT		-23	-22	-22	-22	-21	-21	-21	-21	-20
BOOST B4 INNER COOLER		7	7	8	7	2	-1	-3	-4	-5
BOOST A4 INNER COOLER		-3	-3	-2	-1	-2	-3	-4	-4	-5
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		246	246	246	209	148	133	132	131	130
EXHAUST #2		226	225	225	190	140	126	124	123	122
EXHAUST #3		230	230	230	192	136	124	124	124	124
EXHAUST #4		258	258	258	214	154	141	142	142	142
EXHAUST #5		247	246	246	205	147	131	129	128	128
EXHAUST #6		293	289	288	236	174	152	148	143	139
EXHAUST STACK		184	185	185	164	133	123	122	121	120
PRESSURE PARAMETERS										
OIL	(kpa)	97.9	106.4	114.0	121.6	129.4	135.8	142.2	148.9	155.8
FUEL	(kpa)	101.7	103.7	104.6	150.9	166.8	165.0	166.4	167.2	167.9

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		353	354	355	356	357	358	359	360	361
TEST CODE		1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	151312	151319	151319	151323	151326	151330	151333	151336	151339
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	-1	-1	-1	-1	-0	2	4	4
TORQUE	(N-H)	-3.5	-3.5	37.4	-293.2	-150.6	-87.2	-46.0	-24.9	8.5
POWER	(KW)	.0	.0	-0.0	.0	.0	.0	-0.0	-0.0	.0
SMOKE OPACITY	(Z)	.1	.1	.1	51.8	95.5	99.2	99.3	99.9	99.8
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-18	-18	-18	-18	-18	-18	-18	-18	-18
COOLANT OUT		-18	-16	-16	-16	-16	-16	-16	-16	-16
OIL SUMP		-17	-17	-17	-17	-16	-15	-13	-13	-14
OIL GALLERY		-18	-18	-18	-18	-18	-17	-17	-17	-18
INTAKE AIR		-21	-21	-21	-22	-23	-23	-24	-24	-24
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-18	-18	-18	-18	-18	-18	-19	-19	-19
BOOST A6 INNER COOLER		-18	-18	-18	-18	-18	-18	-18	-18	-18
FUEL IN		-18	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-18	-18	-18	-19	-9	14	21	31	38
EXHAUST #2		-18	-18	-18	-16	8	16	27	32	41
EXHAUST #3		-18	-18	-18	-19	1	5	26	27	37
EXHAUST #4		-18	-18	-18	-18	-9	9	28	36	50
EXHAUST #5		-18	-18	-18	-19	-0	22	35	42	56
EXHAUST #6		-18	-18	-18	-18	-20	-20	30	30	67
EXHAUST STACK		-18	-18	-18	-17	-18	-2	5	11	21
PRESSURE PARAMETERS										
OIL	(kpa)	1.3	1.3	1.3	1.2	1.6	3.7	5.9	8.1	11.6
FUEL	(kpa)	51.1	51.1	55.1	74.8	95.3	106.7	109.5	112.2	113.8
RUN NUMBER		362	363	364	365	366	367	368	369	370
TEST CODE		1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	151343	151346	151350	151353	151357	1514 0	1514 3	1514 6	151410
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	6	17	376	421	683	884	977	1348	2358
TORQUE	(N-H)	18.4	13.1	11.6	18.6	19.5	25.9	28.9	36.9	69.8
POWER	(KW)	.0	.0	.5	.8	1.4	2.2	3.0	5.2	17.2
SMOKE OPACITY	(Z)	99.8	99.8	99.9	101.0	99.9	100.0	100.0	98.6	31.4
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-18	-18	-18	-18	-18	-19	-18	-18	-17
COOLANT OUT		-16	-16	-16	-16	-15	-15	-15	-15	-15
OIL SUMP		-14	-15	-15	-15	-15	-15	-14	-14	-13
OIL GALLERY		-18	-18	-18	-18	-18	-18	-18	-18	-18
INTAKE AIR		-24	-25	-25	-25	-25	-25	-25	-25	-25
CELL AMBIENT		-23	-23	-23	-23	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER		-19	-19	-20	-20	-20	-20	-21	-20	-2
BOOST A6 INNER COOLER		-18	-18	-18	-18	-18	-18	-18	-16	-17
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		49	58	68	77	92	113	132	157	262
EXHAUST #2		49	59	65	85	97	133	140	152	258
EXHAUST #3		47	52	61	78	88	109	125	143	248
EXHAUST #4		68	67	75	87	113	131	135	152	276
EXHAUST #5		65	72	77	90	108	156	162	172	267
EXHAUST #6		80	99	99	134	189	188	205	236	319
EXHAUST STACK		25	29	33	43	55	71	83	101	158
PRESSURE PARAMETERS										
OIL	(kpa)	14.6	17.6	21.3	24.8	29.3	33.6	38.2	42.8	47.6
FUEL	(kpa)	114.4	115.5	115.4	119.3	121.7	122.4	114.0	96.5	98.3

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****

RUN NUMBER		371	372	373	374	375	376	377	378	379
TEST CODE		1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	151413	151416	151420	151423	151426	151429	151433	151436	151439
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2364	2375	2381	2384	2391	2406	2407	2410	2411
TORQUE	(N-H)	50.9	48.3	48.9	48.8	47.2	48.3	48.2	48.3	48.0
POWER	(KW)	12.6	12.0	12.2	12.2	11.8	12.2	12.2	12.2	12.1
SMOKE OPACITY	(%)	29.5	18.1	21.0	21.2	22.2	17.8	14.2	12.8	12.5
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-17	-16	-15	-15	-14	-13	-12	-12	-11
COOLANT OUT		-14	-13	-12	-12	-11	-11	-10	-9	-8
OIL SUMP		-13	-11	-10	-9	-8	-8	-7	-6	-6
OIL GALLERY		-18	-18	-18	-18	-17	-16	-16	-15	-14
INTAKE AIR		-25	-24	-23	-23	-22	-22	-21	-21	-21
CELL AMBIENT		-24	-24	-24	-24	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-1	0	1	2	3	4	5	5	5
BOOST AF INNER COOLER		-14	-12	-10	-8	-7	-6	-5	-4	-4
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		272	274	271	264	261	259	255	252	250
EXHAUST #2		256	252	247	242	239	239	235	232	230
EXHAUST #3		254	255	251	246	243	241	236	234	233
EXHAUST #4		278	276	274	271	269	267	264	262	262
EXHAUST #5		271	271	267	262	259	256	254	253	252
EXHAUST #6		295	279	278	271	268	270	272	271	265
EXHAUST STACK		168	174	177	178	179	180	181	181	181
PRESSURE PARAMETERS										
OIL	(kpa)	52.3	57.8	63.2	68.9	75.1	82.1	88.2	97.8	105.9
FUEL	(kpa)	93.4	96.8	97.2	98.7	99.4	99.9	99.9	101.3	102.3

RUN NUMBER		380	381	382	383	384	385	386	387	388
TEST CODE		1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6	1111 6
DAY	(julian)	5326	5326	5326	5326	5326	5326	5326	5326	5326
TIME	(military)	151442	151446	151449	151452	151455	151458	1515 2	1515 5	1515 8
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2	COND2
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2023	1218	868	869	878	868	3	-1	-1
TORQUE	(N-H)	45.2	21.1	16.3	25.8	25.2	23.4	7.3	-1.2	-3.2
POWER	(KW)	9.6	2.7	1.5	2.3	2.3	2.1	.8	.8	.8
SMOKE OPACITY	(%)	22.5	3.8	1.8	1.8	1.8	1.1	.2	.2	.2
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-18	-18	-9	-9	-9	-9	-9	-8	-8
COOLANT OUT		-7	-7	-7	-6	-6	-6	-6	-5	-5
OIL SUMP		-5	-4	-4	-5	-5	-5	-5	-5	-5
OIL GALLERY		-13	-13	-12	-11	-11	-10	-10	-9	-8
INTAKE AIR		-21	-21	-21	-20	-21	-21	-22	-21	-21
CELL AMBIENT		-23	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER		6	1	-2	-4	-4	-7	-8	-8	-8
BOOST AF INNER COOLER		-3	-3	-4	-5	-5	-6	-7	-7	-7
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		242	178	135	133	133	132	115	104	104
EXHAUST #2		222	159	129	125	123	122	106	99	98
EXHAUST #3		223	155	123	123	123	124	105	97	96
EXHAUST #4		250	174	148	139	140	148	128	111	118
EXHAUST #5		248	168	135	132	131	130	112	103	102
EXHAUST #6		285	179	143	141	138	134	113	103	101
EXHAUST STACK		176	139	128	117	116	115	105	108	98
PRESSURE PARAMETERS										
OIL	(kpa)	114.6	122.5	129.9	137.5	145.1	152.7	168.6	162.3	158.1
FUEL	(kpa)	131.8	170.3	164.4	165.1	165.9	167.9	141.7	104.1	96.1

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****

RUN NUMBER		425	426	427	428	429	430	431	432	433
TEST CODE		1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	04547	04550	04553	04556	04559	046 3	046 7	04611	04614
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	-1	-1	-1	-1	-1	-1	-1	4
TORQUE	(N-H)	-1.1	-1.1	-1.1	-27.4	-269.9	-176.5	-84.3	-29.1	-41.2
POWER	(KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY	(Z)	.3	.3	.3	.3	85.1	98.6	99.4	99.8	99.4

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
COOLANT OUT		-20	-19	-19	-20	-19	-19	-19	-20	-19
OIL SUMP		-20	-20	-20	-20	-20	-20	-20	-20	-20
OIL GALLERY		-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR		-21	-21	-21	-22	-22	-23	-23	-23	-24
CELL AMBIENT		-22	-22	-22	-22	-22	-22	-23	-23	-23
BOOST B4 INNER COOLER		-19	-19	-19	-19	-19	-19	-20	-20	-20
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		-20	-20	-20	-19	-21	-9	4	23	31
EXHAUST #2		-20	-20	-20	-20	-11	3	29	36	43
EXHAUST #3		-20	-20	-20	-20	-21	3	22	31	38
EXHAUST #4		-20	-20	-20	-19	-8	5	22	34	43
EXHAUST #5		-20	-20	-19	-20	-8	-0	22	36	61
EXHAUST #6		-20	-20	-19	-20	-21	5	19	37	48
EXHAUST STACK		-19	-19	-21	-19	-16	-9	0	8	14

PRESSURE PARAMETERS										
OIL	(kpa)	1.8	1.9	1.9	2.0	1.8	3.0	5.5	8.1	11.0
FUEL	(kpa)	5.0	5.0	5.9	9.4	23.0	38.5	62.0	88.8	104.0

RUN NUMBER		434	435	436	437	438	439	440	441	442
TEST CODE		1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	04610	04621	04625	04628	04631	04634	04638	04643	04646
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	153	229	53	18	403	550	655	767	882
TORQUE	(N-H)	1.3	15.4	19.1	21.6	22.4	28.0	36.0	40.7	45.4
POWER	(KW)	.0	.4	.1	.0	.9	1.6	2.5	3.3	4.2
SMOKE OPACITY	(Z)	99.8	100.8	99.9	100.0	100.1	99.9	100.0	100.0	100.1

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
COOLANT OUT		-19	-19	-19	-19	-19	-19	-19	-18	-18
OIL SUMP		-19	-19	-19	-19	-19	-19	-19	-18	-18
OIL GALLERY		-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR		-24	-24	-24	-24	-25	-25	-25	-25	-25
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-20	-20	-20	-20	-21	-21	-21	-21	-21
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		37	47	56	67	74	82	98	118	133
EXHAUST #2		61	76	84	84	85	98	118	128	140
EXHAUST #3		46	53	64	78	77	86	114	129	140
EXHAUST #4		54	61	72	80	85	97	115	129	127
EXHAUST #5		66	72	77	88	102	114	156	175	190
EXHAUST #6		66	84	116	138	145	174	193	188	188
EXHAUST STACK		21	27	32	38	44	52	65	76	85

PRESSURE PARAMETERS										
OIL	(kpa)	14.4	18.1	21.6	25.3	29.2	33.5	38.1	44.6	49.5
FUEL	(kpa)	109.9	114.4	115.7	118.1	119.2	122.9	123.7	128.7	111.6

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		443	444	445	446	447	448	449	450	451
TEST CODE		1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	04650	04653	04657	047 0	047 3	047 7	04710	04713	04717
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	1116	2311	2364	2370	2374	2380	2383	2388	2401
TORQUE	(N-M)	52.0	78.7	95.3	93.2	93.0	91.5	91.7	91.8	91.6
POWER	(KW)	6.1	19.0	23.6	23.1	23.1	22.8	22.9	23.0	23.0
SMOKE OPACITY	(Z)	99.9	86.4	29.9	22.2	18.9	13.4	15.5	20.3	13.7
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-19	-18	-17	-16	-16	-15	-14
COOLANT OUT		-17	-17	-17	-16	-15	-14	-14	-13	-12
OIL SUMP		-18	-17	-16	-15	-13	-12	-11	-10	-10
OIL GALLERY		-20	-20	-20	-20	-20	-20	-20	-20	-19
INTAKE AIR		-25	-25	-25	-25	-24	-23	-23	-22	-22
CELL AMBIENT		-23	-24	-24	-24	-24	-23	-23	-23	-23
BOOST B4 INNER COOLER		-21	-19	-3	-1	1	2	3	4	5
BOOST AF INNER COOLER		-20	-20	-17	-15	-12	-10	-9	-7	-6
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		148	174	263	267	267	265	261	261	260
EXHAUST #2		146	179	254	253	250	247	244	243	243
EXHAUST #3		148	174	257	255	253	249	246	245	243
EXHAUST #4		141	183	271	272	271	269	268	268	267
EXHAUST #5		216	258	285	273	268	263	259	259	259
EXHAUST #6		191	221	298	304	308	312	314	315	317
EXHAUST STACK		96	125	165	172	177	180	183	185	187
PRESSURE PARAMETERS										
OIL	(kpa)	54.2	59.9	64.8	69.4	74.2	79.4	84.9	90.6	98.5
FUEL	(kpa)	94.3	79.7	82.1	85.4	85.8	87.3	86.9	86.4	87.8
RUN NUMBER		452	453	454	455	456	457	458	459	460
TEST CODE		1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1	1211 1
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	04720	04724	04728	04731	04736	04739	04743	04746	04750
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2406	1849	844	824	834	834	832	830	833
TORQUE	(N-M)	92.2	84.1	40.3	39.9	42.1	41.7	41.8	42.4	42.4
POWER	(KW)	23.2	17.3	3.6	3.4	3.7	3.6	3.6	3.7	3.7
SMOKE OPACITY	(Z)	13.5	2.3	2.3	1.2	1.2	1.2	1.1	1.2	1.3
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-13	-13	-12	-11	-11	-11	-11	-10	-10
COOLANT OUT		-11	-11	-10	-9	-9	-8	-8	-8	-8
OIL SUMP		-9	-9	-7	-8	-8	-7	-7	-7	-7
OIL GALLERY		-19	-19	-18	-17	-17	-16	-15	-15	-14
INTAKE AIR		-21	-21	-21	-21	-21	-21	-22	-22	-22
CELL AMBIENT		-23	-23	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER		6	7	1	-3	-5	-7	-8	-9	-10
BOOST AF INNER COOLER		-5	-4	-4	-5	-6	-7	-8	-8	-9
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		259	241	158	147	144	143	142	141	141
EXHAUST #2		244	225	152	142	137	135	133	131	131
EXHAUST #3		243	222	143	136	133	133	132	131	130
EXHAUST #4		257	244	159	151	149	146	144	143	142
EXHAUST #5		258	234	154	144	140	137	135	134	134
EXHAUST #6		317	286	188	172	163	156	149	146	144
EXHAUST STACK		189	179	136	128	125	122	121	129	119
PRESSURE PARAMETERS										
OIL	(kpa)	105.2	112.8	121.5	128.0	137.8	145.7	151.9	161.5	170.3
FUEL	(kpa)	89.3	130.7	148.2	149.4	149.9	151.0	152.7	153.5	154.5

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER	461	462	463	464	465	466	467	468	469
TEST CODE	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 1	1211 2	1211 2
DAY (julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME (military)	105610	105614	105617	105620	105623	105626	105630	105633	105637
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-1	3	1	1	0	251	395
TORQUE (N-H)	-2.9	-2.9	-39.7	-99.5	-18.0	-54.2	-15.0	8.2	15.3
POWER (KW)	0	0	0	0	0	0	0	0	0
SMOKE OPACITY (Z)	.3	.3	.3	87.5	98.7	99.5	99.4	99.7	99.9

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-18	-18	-17	-17	-18	-17	-17	-17	-17
OIL SUMP	-16	-16	-16	-15	-14	-13	-12	-13	-13
OIL GALLERY	-17	-17	-17	-17	-17	-15	-16	-16	-16
INTAKE AIR	-22	-22	-22	-23	-23	-23	-23	-24	-24
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-23	-23	-23
BOOST B4 INNER COOLER	-18	-18	-18	-18	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-18	-18	-18	-18	-18	-18	-18	-18	-18
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-18	-18	-18	-7	12	26	32	41	54
EXHAUST #2	-18	-18	-18	-2	18	29	36	42	54
EXHAUST #3	-18	-18	-18	-8	13	26	33	46	57
EXHAUST #4	-18	-18	-18	2	19	30	40	52	64
EXHAUST #5	-18	-18	-18	4	23	36	43	55	69
EXHAUST #6	-18	-18	-18	-8	18	45	79	111	137
EXHAUST STACK	-18	-18	-18	-11	-2	5	12	19	26

PRESSURE PARAMETERS									
OIL (kpa)	3.8	3.9	3.8	2.9	4.5	6.8	9.3	12.4	16.5
FUEL (kpa)	65.3	65.3	72.7	95.5	108.0	111.5	112.3	114.8	117.6

RUN NUMBER	470	471	472	473	474	475	476	477	478
TEST CODE	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2
DAY (julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME (military)	105641	105645	105648	105652	105656	1057 0	1057 3	1057 7	105710
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	481	707	831	1045	2281	2363	2370	2376	2383
TORQUE (N-H)	29.1	31.1	33.1	39.1	66.9	81.3	78.2	77.9	78.3
POWER (KW)	1.0	2.3	2.9	4.3	16.0	20.1	19.4	19.4	19.5
SMOKE OPACITY (Z)	100.0	99.8	99.9	99.8	82.2	21.2	18.6	22.9	20.7

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-18	-17	-17	-16	-15
COOLANT OUT	-17	-17	-17	-17	-16	-16	-15	-14	-13
OIL SUMP	-13	-14	-14	-13	-12	-11	-10	-10	-9
OIL GALLERY	-16	-16	-17	-17	-17	-17	-17	-17	-16
INTAKE AIR	-24	-24	-24	-24	-24	-24	-24	-23	-22
CELL AMBIENT	-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER	-20	-20	-20	-20	-17	-2	-1	1	2
BOOST AF INNER COOLER	-18	-18	-18	-18	-18	-15	-13	-11	-9
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	71	92	113	132	192	257	262	261	260
EXHAUST #2	71	104	127	144	220	256	249	245	242
EXHAUST #3	74	103	116	130	201	250	249	246	243
EXHAUST #4	82	108	119	126	204	263	266	265	265
EXHAUST #5	87	131	140	151	218	260	258	257	254
EXHAUST #6	172	211	200	208	275	389	311	310	310
EXHAUST STACK	36	54	66	79	124	156	165	172	176

PRESSURE PARAMETERS									
OIL (kpa)	29.7	25.5	29.8	35.5	41.2	47.5	53.3	61.1	68.4
FUEL (kpa)	121.9	122.6	117.2	104.7	82.0	87.1	98.9	98.5	91.9

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		479	480	481	482	483	484	485	486	487
TEST CODE		1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	105714	105718	105721	105724	105728	105731	105735	105738	105742
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2391	2405	2408	2403	1683	883	834	832	848
TORQUE	(N-M)	78.5	78.2	78.7	78.0	62.5	31.1	31.3	33.1	33.7
POWER	(KW)	19.6	19.7	19.8	19.6	11.0	2.9	2.7	2.9	3.0
SMOKE OPACITY	(%)	17.3	15.3	19.4	14.5	19.0	2.5	1.1	1.1	1.0
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-14	-14	-13	-12	-11	-11	-10	-10	-10
COOLANT OUT		-12	-11	-11	-10	-9	-9	-8	-8	-7
OIL SUMP		-9	-8	-7	-6	-5	-5	-5	-6	-6
OIL GALLERY		-15	-15	-14	-13	-12	-12	-11	-11	-10
INTAKE AIR		-22	-21	-21	-20	-20	-19	-20	-20	-20
CELL AMBIENT		-23	-22	-22	-22	-22	-22	-21	-21	-21
BOOST B4 INNER COOLER		3	4	5	6	6	0	-3	-5	-7
BOOST AF INNER COOLER		-8	-6	-5	-4	-3	-4	-5	-6	-6
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		259	258	255	254	221	157	142	146	139
EXHAUST #2		248	240	240	240	206	151	135	131	128
EXHAUST #3		241	248	239	239	202	143	130	128	128
EXHAUST #4		265	265	264	263	222	158	143	140	138
EXHAUST #5		251	251	251	253	214	153	138	134	132
EXHAUST #6		311	312	308	305	255	183	164	157	151
EXHAUST STACK		179	182	184	185	166	133	123	120	117
PRESSURE PARAMETERS										
OIL	(kpa)	76.9	86.6	96.0	105.8	115.7	125.0	135.4	146.8	155.1
FUEL	(kpa)	92.2	94.5	94.8	95.0	147.8	156.9	154.7	155.2	155.7

RUN NUMBER		488	489	490	491	492	493	494	495	496
TEST CODE		1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2	1211 2
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	105745	105749	105752	105755	105758	1058 2	1058 5	1058 9	105812
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	832	834	838	840	843	835	4	-0	-0
TORQUE	(N-M)	32.2	32.8	32.8	32.9	33.3	33.1	14.4	-1.4	-2.7
POWER	(KW)	2.8	2.9	2.9	2.9	2.9	2.9	.0	.6	.0
SMOKE OPACITY	(%)	1.0	1.0	1.1	1.1	1.0	1.2	.3	.2	.2
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-10	-9	-9	-9	-8	-8	-8	-8	-8
COOLANT OUT		-7	-6	-7	-6	-6	-6	-5	-6	-5
OIL SUMP		-5	-5	-4	-4	-4	-4	-4	-4	-4
OIL GALLERY		-10	-9	-9	-8	-8	-8	-8	-7	-6
INTAKE AIR		-20	-20	-20	-20	-20	-21	-21	-21	-21
CELL AMBIENT		-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER		-8	-8	-9	-10	-10	-10	-11	-11	-10
BOOST AF INNER COOLER		-7	-7	-8	-8	-7	-7	-9	-9	-10
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		137	137	136	136	136	136	119	118	108
EXHAUST #2		126	124	123	122	122	122	107	100	98
EXHAUST #3		128	127	126	125	125	125	108	99	97
EXHAUST #4		135	134	133	132	131	130	113	104	102
EXHAUST #5		131	129	129	128	127	126	110	101	99
EXHAUST #6		146	142	140	139	138	137	118	110	108
EXHAUST STACK		116	115	114	113	113	112	103	99	96
PRESSURE PARAMETERS										
OIL	(kpa)	165.3	176.7	187.2	196.6	205.9	214.9	223.1	216.7	203.8
FUEL	(kpa)	156.5	156.9	157.6	158.6	158.8	159.2	141.5	103.0	95.9

*** SYNFUEL PROJECT 03-853B TEST RESULTS ***

RUN NUMBER		497	498	499	500	501	502	503	504	505
TEST CODE		1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	153214	153217	153220	153223	153227	153230	153233	153236	153240
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	-0	-0	-0	-1	6	7	3	2
TORQUE	(N-H)	-5.0	-5.0	-5.0	-6.3	-322.9	-178.5	-74.3	-56.6	-46.4
POWER	(KW)	.0	.0	.0	.0	.0	-1	-1	-0	-0
SMOKE OPACITY	(%)	.5	.5	.5	.4	50.1	96.4	99.3	99.1	99.8
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
COOLANT OUT		-20	-19	-19	-19	-19	-19	-19	-19	-19
OIL SUMP		-17	-17	-17	-17	-17	-17	-16	-15	-15
OIL GALLERY		-19	-19	-19	-19	-19	-19	-19	-18	-18
INTAKE AIR		-22	-22	-22	-22	-22	-23	-23	-24	-24
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-19	-19	-19	-19	-19	-20	-20	-20	-20
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		-20	-19	-20	-20	-20	-21	5	23	26
EXHAUST #2		-20	-19	-19	-20	-20	4	20	25	32
EXHAUST #3		-20	-20	-19	-19	-20	4	21	24	32
EXHAUST #4		-19	-19	-19	-19	-20	-10	12	20	32
EXHAUST #5		-19	-19	-19	-19	-20	10	26	36	40
EXHAUST #6		-19	-19	-19	-19	-20	-16	-2	25	37
EXHAUST STACK		-19	-19	-19	-19	-19	-10	-0	7	11
PRESSURE PARAMETERS										
OIL	(kpa)	2.8	2.8	2.8	2.8	2.6	3.4	5.5	7.5	9.7
FUEL	(kpa)	83.3	83.3	83.4	83.3	101.7	110.0	110.8	112.0	111.9
RUN NUMBER		506	507	508	509	510	511	512	513	514
TEST CODE		1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	153243	153246	153250	153253	153257	1533 0	1533 3	1533 7	153310
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	277	3	52	203	430	485	727	917	893
TORQUE	(N-H)	-5	5.8	8.8	9.4	14.9	13.7	22.0	25.6	28.5
POWER	(KW)	-0	0	0	2	7	7	1.7	2.2	2.7
SMOKE OPACITY	(%)	99.9	99.9	99.8	99.8	99.9	100.0	99.9	100.0	100.0
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
COOLANT OUT		-19	-19	-18	-19	-18	-18	-18	-18	-17
OIL SUMP		-15	-15	-15	-16	-16	-16	-16	-15	-15
OIL GALLERY		-18	-18	-18	-18	-18	-18	-18	-19	-19
INTAKE AIR		-24	-24	-25	-25	-25	-25	-25	-25	-25
CELL AMBIENT		-23	-23	-23	-24	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER		-20	-20	-20	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		39	45	54	62	71	84	97	115	129
EXHAUST #2		45	51	67	86	91	99	110	129	135
EXHAUST #3		42	46	59	70	74	88	99	125	137
EXHAUST #4		45	54	64	75	87	101	120	136	136
EXHAUST #5		53	65	75	83	93	104	120	144	164
EXHAUST #6		63	74	82	93	126	165	188	185	184
EXHAUST STACK		29	23	28	33	40	51	61	73	81
PRESSURE PARAMETERS										
OIL	(kpa)	12.6	15.2	18.3	21.2	24.5	28.1	31.9	36.5	40.7
FUEL	(kpa)	113.5	113.9	115.1	115.3	118.4	122.4	122.8	113.5	106.9

*** SYNFUEL PROJECT 83-8538 TEST RESULTS ***

RUN NUMBER		515	516	517	518	519	520	521	522	523
TEST CODE		1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	153313	153316	153320	153324	153327	153330	153334	153337	153341
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	1235	2351	2366	2372	2372	2378	1603	356	838
TORQUE	(N-M)	36.9	77.7	65.4	64.8	65.0	66.2	45.5	17.7	24.1
POWER	(KW)	4.8	19.1	16.2	16.1	16.1	16.5	7.6	1.6	2.1
SMOKE OPACITY	(%)	99.2	45.0	22.8	23.3	19.5	17.5	15.7	1.3	1.2
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-20	-19	-18	-18	-17	-16	-15	-15	-15
COOLANT OUT		-17	-17	-17	-16	-15	-14	-13	-13	-12
OIL SUMP		-14	-14	-13	-12	-10	-10	-9	-9	-8
OIL GALLERY		-19	-19	-19	-19	-18	-18	-17	-17	-16
INTAKE AIR		-25	-25	-25	-24	-24	-23	-23	-22	-22
CELL AMBIENT		-24	-24	-24	-24	-24	-24	-23	-23	-23
BOOST B4 INNER COOLER		-21	-13	-3	-1	0	2	2	-5	-8
BOOST AF INNER COOLER		-20	-20	-17	-14	-12	-10	-9	-9	-9
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		145	242	255	260	259	257	224	154	140
EXHAUST #2		149	257	252	248	245	243	209	148	134
EXHAUST #3		150	256	252	249	245	242	206	139	128
EXHAUST #4		144	258	264	266	266	264	224	153	144
EXHAUST #5		168	279	266	260	256	253	214	148	138
EXHAUST #6		193	318	305	299	298	299	255	177	159
EXHAUST STACK		94	152	161	169	173	176	159	123	115
PRESSURE PARAMETERS										
OIL	(kpa)	45.3	49.8	55.6	60.8	66.6	72.4	79.4	85.7	92.3
FUEL	(kpa)	85.3	81.2	86.2	86.9	87.4	87.4	141.4	147.1	145.8

RUN NUMBER		524	525	526	527	528	529	536	531	532
TEST CODE		1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3	1211 3
DAY	(julian)	5330	5330	5330	5330	5330	5330	5330	5330	5330
TIME	(military)	153344	153347	153350	153353	153357	1534 0	1534 3	1534 7	153410
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	832	838	836	828	839	832	842	511	0
TORQUE	(N-M)	26.3	26.5	26.4	26.3	26.8	26.8	26.4	21.9	-1.2
POWER	(KW)	2.3	2.3	2.3	2.3	2.4	2.3	2.3	1.2	-0
SMOKE OPACITY	(%)	1.2	1.2	1.2	1.3	1.3	1.3	1.3	.8	.4
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-14	-14	-14	-14	-13	-13	-13	-13	-12
COOLANT OUT		-12	-12	-11	-11	-11	-10	-10	-10	-10
OIL SUMP		-8	-8	-8	-8	-8	-8	-8	-8	-8
OIL GALLERY		-16	-16	-16	-15	-15	-15	-14	-14	-13
INTAKE AIR		-22	-22	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT		-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER		-10	-11	-12	-13	-13	-14	-14	-14	-15
BOOST AF INNER COOLER		-10	-11	-11	-12	-12	-12	-13	-13	-13
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		136	135	134	133	132	131	130	126	107
EXHAUST #2		129	125	121	119	118	117	116	111	96
EXHAUST #3		125	126	126	125	125	125	125	129	101
EXHAUST #4		144	144	143	142	142	142	141	136	116
EXHAUST #5		135	132	130	130	129	129	127	121	102
EXHAUST #6		153	147	142	138	135	133	132	124	107
EXHAUST STACK		112	118	108	107	107	106	106	103	93
PRESSURE PARAMETERS										
OIL	(kpa)	98.6	104.8	111.5	118.4	125.9	133.4	141.8	149.4	154.8
FUEL	(kpa)	144.8	144.1	144.2	144.3	144.7	144.8	145.4	156.5	114.1

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER	569	570	571	572	573	574	575	576	577
TEST CODE	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141110	141114	141118	141121	141125	141129	141132	141136	141139
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-H)	-2.9	-2.9	10.2	-281.7	-260.6	-238.5	-218.4	-202.7	-175.4
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	.1	.1	.0	82.9	99.2	99.9	100.0	100.0	100.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-20	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-19	-17	-18	-18	-17	-18	-18	-18	-17
OIL SUMP	-15	-15	-15	-15	-14	-13	-13	-13	-13
OIL GALLERY	-16	-16	-16	-16	-16	-15	-14	-14	-14
INTAKE AIR	-20	-20	-20	-21	-21	-22	-22	-22	-22
CELL AMBIENT	-21	-21	-21	-21	-21	-21	-21	-21	-22
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-19	-19	-19	-21	-22	-23	-25	-25	-26
EXHAUST #2	-19	-19	-19	-20	-22	-24	-25	-22	-16
EXHAUST #3	-19	-19	-19	-21	-22	-24	-24	-25	-25
EXHAUST #4	-19	-19	-19	-21	-23	-24	-25	-17	-7
EXHAUST #5	-19	-19	-19	-21	-22	-24	-25	-25	-4
EXHAUST #6	-18	-18	-18	-20	-21	-23	-23	-24	-25
EXHAUST STACK	-19	-19	-19	-20	-20	-21	-22	-21	-17

PRESSURE PARAMETERS									
OIL (kpa)	4.9	5.0	5.8	7.8	10.4	13.9	17.3	21.0	24.5
FUEL (kpa)	62.5	62.5	64.0	81.9	105.1	113.8	115.5	116.4	169.1

RUN NUMBER	578	579	580	581	582	583	584	585	586
TEST CODE	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141143	141147	141151	141156	1412 0	1412 4	1412 7	141211	141215
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2	-1	46	11	18	13	47	285	143
TORQUE (N-H)	-87.7	-129.2	-56.9	-44.4	1.7	8.9	12.5	12.5	14.0
POWER (KW)	.0	.0	.3	.1	.0	.0	.1	.4	.2
SMOKE OPACITY (Z)	100.0	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-20	-20	-20
COOLANT OUT	-18	-17	-17	-18	-17	-17	-17	-17	-17
OIL SUMP	-14	-14	-14	-14	-15	-15	-16	-16	-15
OIL GALLERY	-14	-14	-14	-14	-15	-15	-15	-15	-15
INTAKE AIR	-22	-23	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER	-19	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER	-19	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-26	-5	8	6	25	35	42	43	47
EXHAUST #2	-5	20	39	54	66	78	82	90	77
EXHAUST #3	-25	-28	-12	8	25	27	29	37	37
EXHAUST #4	8	37	51	79	78	83	104	115	117
EXHAUST #5	5	31	49	66	102	103	112	109	103
EXHAUST #6	-3	12	43	69	81	111	130	160	187
EXHAUST STACK	-11	1	18	22	28	34	42	49	53

PRESSURE PARAMETERS									
OIL (kpa)	28.7	33.7	38.4	45.0	50.6	56.3	62.0	69.1	75.8
FUEL (kpa)	117.2	119.1	121.5	120.5	121.8	123.4	124.1	124.9	125.9

*** SYN FUEL PROJECT 03-0538 TEST RESULTS ***

RUN NUMBER	587	588	589	590	591	592	593	594	595
TEST CODE	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141219	141222	141226	141230	141234	141237	141241	141244	141248
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TAKSAN

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	386	415	442	380	515	677	664	729	601
TORQUE (N-M)	14.3	16.5	17.6	15.0	16.6	25.1	24.5	24.9	25.9
POWER (KW)	.6	.7	.8	.6	.9	1.8	1.7	1.9	2.2
SMOKE OPACITY (%)	100.0	100.0	100.0	100.0	100.1	100.0	100.0	100.1	100.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-20	-20	-21	-21	-21	-21	-21	-20	-20
COOLANT OUT	-16	-16	-16	-16	-16	-16	-16	-16	-16
OIL SUMP	-15	-15	-15	-14	-14	-14	-13	-13	-12
OIL GALLERY	-15	-15	-15	-15	-15	-15	-15	-15	-15
INTAKE AIR	-24	-24	-24	-24	-24	-24	-24	-24	-24
CELL AMBIENT	-22	-22	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER	-20	-20	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	60	61	61	66	73	84	86	88	83
EXHAUST #2	72	87	93	102	106	128	128	136	146
EXHAUST #3	34	41	41	50	52	72	88	97	104
EXHAUST #4	119	123	125	127	134	143	152	159	165
EXHAUST #5	106	106	108	103	105	126	138	139	146
EXHAUST #6	206	228	247	264	277	295	274	274	269
EXHAUST STACK	56	62	67	73	78	91	97	102	107

PRESSURE PARAMETERS									
OIL (kpa)	82.7	90.3	98.2	106.8	116.5	127.0	137.1	147.9	160.8
FUEL (kpa)	126.0	123.5	118.5	114.9	110.7	82.9	68.9	60.9	51.7

RUN NUMBER	596	597	598	599	600	601	602	603	604
TEST CODE	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1	1311 1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141252	141255	141259	1413 3	1413 7	141311	141315	141319	141323
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	846	921	979	1044	1158	1326	2315	2314	2349
TORQUE (N-M)	27.1	28.9	29.7	34.4	33.6	36.1	67.7	57.2	56.2
POWER (KW)	2.4	2.8	3.1	3.8	4.1	5.0	16.4	13.8	13.8
SMOKE OPACITY (%)	100.1	100.0	100.0	100.0	99.9	99.6	65.8	43.8	29.9

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-18	-18	-18	-17	-17	-15	-14
COOLANT OUT	-15	-15	-15	-14	-14	-14	-13	-12	-11
OIL SUMP	-12	-12	-12	-11	-11	-11	-10	-10	-9
OIL GALLERY	-15	-14	-14	-14	-14	-14	-14	-14	-13
INTAKE AIR	-24	-24	-24	-24	-24	-24	-24	-23	-23
CELL AMBIENT	-23	-23	-23	-23	-23	-23	-23	-23	-22
BOOST B4 INNER COOLER	-21	-20	-19	-18	-17	-15	0	5	8
BOOST AF INNER COOLER	-20	-20	-19	-19	-19	-18	-17	-12	-8
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	98	108	115	129	122	127	252	302	329
EXHAUST #2	157	167	182	189	193	213	305	324	329
EXHAUST #3	110	111	117	130	132	134	257	283	298
EXHAUST #4	169	177	182	194	197	220	302	304	287
EXHAUST #5	159	157	149	175	175	158	273	317	340
EXHAUST #6	253	256	259	278	322	330	383	293	218
EXHAUST STACK	112	117	123	134	142	150	195	207	211

PRESSURE PARAMETERS									
OIL (kpa)	172.2	184.7	197.0	211.9	227.9	242.1	260.8	279.9	296.5
FUEL (kpa)	43.7	35.3	28.8	18.0	6.2	-4.9	1.1	2.3	1.9

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER	605	606	607	608	609	610	611	612	613
TEST CODE	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141328	141331	141334	141338	141342	141346	141349	141353	141356
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK

ENGINE PARAMETERS		605	606	607	608	609	610	611	612	613
ENGINE SPEED (rpm)		2358	2362	2369	1324	805	813	819	814	816
TORQUE (N-M)		55.8	56.4	55.3	28.3	16.7	25.9	25.6	26.4	25.6
POWER (KW)		13.6	14.0	13.7	3.9	1.4	2.2	2.2	2.2	2.2
SNOKE OPACITY (%)		25.9	18.6	13.7	3.1	2.9	2.4	3.5	4.4	4.9

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-13	-12	-12	-11	-10	-10	-11	-11	-10
COOLANT OUT	-18	-18	-9	-8	-7	-7	-6	-6	-6
OIL SUMP	-7	-6	-5	-5	-4	-4	-5	-5	-5
OIL GALLERY	-13	-13	-12	-11	-11	-10	-10	-9	-9
INTAKE AIR	-22	-22	-21	-21	-21	-20	-20	-20	-20
CELL AMBIENT	-22	-22	-22	-22	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER	9	11	11	7	1	-2	-4	-5	-6
BOOST AF INNER COOLER	-5	-3	-1	-1	-2	-3	-4	-5	-6
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	337	336	331	241	179	159	145	134	123
EXHAUST #2	327	320	311	229	177	163	153	146	139
EXHAUST #3	318	311	302	216	162	153	147	144	141
EXHAUST #4	294	282	287	206	156	149	146	143	142
EXHAUST #5	348	346	337	241	184	170	162	158	155
EXHAUST #6	159	135	152	114	89	105	113	119	124
EXHAUST STACK	211	211	211	171	143	135	131	128	125

PRESSURE PARAMETERS

OIL (kpa)	314.6	327.3	339.7	345.2	343.3	340.8	339.1	337.5	336.4
FUEL (kpa)	2.8	2.4	4.6	43.7	73.9	87.6	98.1	99.5	98.5

RUN NUMBER	614	615	616	617	618	619	620	621	622
TEST CODE	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1	1311.1
DAY (julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME (military)	141359	1414.3	1414.7	1414.11	1414.14	1414.18	1414.22	1414.25	1414.29
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK	TARSAK

ENGINE PARAMETERS		614	615	616	617	618	619	620	621	622
ENGINE SPEED (rpm)		818	819	811	499	133	-1	-1	-1	-1
TORQUE (N-M)		25.8	25.4	24.8	20.8	15.3	-1.5	-2.5	-2.5	-2.5
POWER (KW)		2.1	2.2	2.1	1.1	1.2	.8	.8	.8	.8
SNOKE OPACITY (%)		5.8	6.7	8.3	4.6	6.1	.9	.8	.8	.9

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-18	-10	-10	-9	-9	-9	-9	-9	-9
COOLANT OUT	-6	-5	-6	-5	-5	-5	-5	-5	-5
OIL SUMP	-5	-4	-4	-4	-3	-3	-4	-4	-4
OIL GALLERY	-8	-8	-8	-7	-7	-7	-6	-6	-6
INTAKE AIR	-20	-20	-20	-20	-20	-20	-20	-20	-20
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST B4 INNER COOLER	-7	-8	-8	-9	-9	-9	-9	-9	-9
BOOST AF INNER COOLER	-6	-7	-7	-8	-8	-8	-9	-9	-9
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	115	107	102	96	93	84	83	81	80
EXHAUST #2	135	131	127	124	118	107	106	104	102
EXHAUST #3	139	138	136	132	122	110	108	105	103
EXHAUST #4	141	140	140	137	127	114	112	110	108
EXHAUST #5	153	150	148	145	131	118	115	112	110
EXHAUST #6	127	130	132	131	125	113	110	107	104
EXHAUST STACK	123	122	120	118	113	107	104	102	100

PRESSURE PARAMETERS

OIL (kpa)	335.2	334.8	332.9	331.2	328.8	302.9	264.8	236.9	214.9
FUEL (kpa)	89.7	88.6	87.7	96.8	109.9	104.6	95.5	93.1	92.4

*** SYNFUEL PROJECT 03-9538 TEST RESULTS ***

RUN NUMBER		623	624	625	626	627	628	629	630	631
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	1633 4	1633 7	163311	163314	163318	163322	163326	163329	163333
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE	(N-H)	-4.3	-4.3	31.5	-293.0	-269.2	-244.1	-214.5	-216.1	-133.2
POWER	(KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY	(Z)	.3	.3	.2	86.1	99.3	100.0	100.1	100.1	100.1

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		-16	-16	-16	-16	-16	-16	-16	-16	-16
COOLANT OUT		-17	-15	-15	-15	-15	-15	-16	-15	-16
OIL SUMP		-15	-15	-15	-15	-14	-14	-14	-14	-14
OIL GALLERY		-16	-16	-16	-16	-16	-15	-14	-13	-13
INTAKE AIR		-19	-19	-19	-20	-20	-21	-21	-21	-21
CELL AMBIENT		-20	-20	-20	-20	-20	-20	-21	-21	-21
BOOST B4 INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER		-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-19	-19	-19	-20	-22	-23	-24	-25	-25
EXHAUST #2		-19	-19	-19	-20	-22	-23	-23	-24	-2
EXHAUST #3		-19	-19	-18	-20	-22	-23	-14	-17	-17
EXHAUST #4		-19	-19	-19	-20	-22	-24	-25	-26	-17
EXHAUST #5		-19	-19	-19	-21	-22	-24	-25	-28	-25
EXHAUST #6		-19	-19	-18	-20	-21	-23	-24	-24	-20
EXHAUST STACK		-19	-19	-19	-20	-20	-21	-26	-21	-15

PRESSURE PARAMETERS

OIL	(kpa)	4.7	4.8	4.7	5.7	8.6	12.2	15.7	19.1	22.8
FUEL	(kpa)	91.8	91.8	86.0	101.9	100.2	100.4	100.4	107.8	107.3

RUN NUMBER		632	633	634	635	636	637	638	639	640
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	163337	163341	163345	163348	163352	163355	163359	1634 3	1634 6
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW	TARSAW

ENGINE PARAMETERS

ENGINE SPEED	(rpm)	2	1	1	0	-0	-1	34	343	222
TORQUE	(N-H)	-10.7	-5.7	-20.9	5.4	-73.5	-23.4	3.9	8.8	9.1
POWER	(KW)	-0	-0	-0	0	0	0	0	3	2
SMOKE OPACITY	(Z)	100.1	100.0	100.0	99.6	100.0	100.1	100.0	100.1	100.1

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN		-16	-16	-16	-16	-16	-16	-17	-17	-17
COOLANT OUT		-15	-16	-15	-15	-16	-16	-15	-15	-15
OIL SUMP		-14	-15	-15	-15	-15	-15	-14	-14	-14
OIL GALLERY		-14	-14	-14	-14	-15	-15	-15	-15	-15
INTAKE AIR		-22	-22	-22	-22	-22	-22	-22	-22	-23
CELL AMBIENT		-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER		-19	-19	-19	-20	-20	-19	-20	-20	-20
BOOST AF INNER COOLER		-19	-19	-18	-18	-18	-18	-18	-18	-18
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		-13	-8	-1	28	24	20	19	17	23
EXHAUST #2		37	50	72	85	88	95	97	108	109
EXHAUST #3		-4	13	15	25	17	18	17	22	31
EXHAUST #4		26	28	32	42	36	39	47	70	87
EXHAUST #5		-11	8	24	40	48	54	86	93	88
EXHAUST #6		14	35	64	89	96	119	141	169	188
EXHAUST STACK		1	9	14	23	21	23	28	38	46

PRESSURE PARAMETERS

OIL	(kpa)	27.3	31.2	36.1	40.5	45.1	49.9	55.3	61.2	67.4
FUEL	(kpa)	104.3	103.3	103.4	102.4	103.8	103.2	97.5	93.2	91.1

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***

RUN NUMBER		641	642	643	644	645	646	647	648	649
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	163410	163414	163417	163421	163426	163429	163433	163436	163440
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	372	322	379	418	532	679	678	712	827
TORQUE	(N-M)	9.9	12.6	11.7	14.0	20.2	21.1	21.4	22.4	24.2
POWER	(KW)	.4	.4	.5	.6	1.1	1.5	1.5	1.7	2.1
SMOKE OPACITY	(Z)	100.1	100.1	100.1	100.1	100.1	100.1	100.1	100.1	100.1

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-18	-16	-19	-19	-19	-20	-19	-19	-18
COOLANT OUT		-15	-15	-15	-15	-15	-14	-15	-14	-14
OIL SUMP		-14	-14	-14	-14	-14	-13	-13	-12	-12
OIL GALLERY		-15	-15	-15	-15	-15	-15	-15	-15	-15
INTAKE AIR		-23	-23	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT		-21	-21	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER		-18	-18	-18	-18	-18	-18	-18	-18	-18
FUEL IN		-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1		21	24	29	36	43	53	69	85	94
EXHAUST #2		111	118	116	116	123	136	139	144	148
EXHAUST #3		58	54	58	58	68	87	96	105	119
EXHAUST #4		96	102	101	106	118	131	142	150	157
EXHAUST #5		91	87	76	87	100	112	132	139	144
EXHAUST #6		284	212	227	242	264	288	273	275	265
EXHAUST STACK		52	56	59	63	71	83	91	98	104

PRESSURE PARAMETERS										
OIL	(kpa)	73.9	80.6	87.1	95.2	105.2	114.4	124.5	134.3	145.0
FUEL	(kpa)	89.3	85.4	83.7	76.3	52.6	28.2	15.1	5.7	-4.6

RUN NUMBER		650	651	652	653	654	655	656	657	658
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	163443	163447	163450	163454	163458	1635 2	1635 5	163510	163513
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	951	1165	2291	2324	2333	2342	2342	2358	2362
TORQUE	(N-M)	25.6	32.8	46.9	54.4	51.3	51.7	50.8	50.6	50.5
POWER	(KW)	2.6	4.0	11.2	13.2	12.5	12.7	12.5	12.5	12.5
SMOKE OPACITY	(Z)	100.1	99.9	94.6	26.6	20.4	27.0	27.5	18.4	15.4

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-18	-17	-17	-16	-15	-14	-13	-13	-12
COOLANT OUT		-14	-13	-14	-13	-12	-11	-11	-10	-9
OIL SUMP		-12	-12	-11	-11	-10	-10	-8	-7	-7
OIL GALLERY		-15	-14	-14	-14	-14	-13	-13	-13	-13
INTAKE AIR		-23	-23	-23	-23	-23	-23	-22	-22	-21
CELL AMBIENT		-22	-22	-22	-22	-22	-22	-22	-21	-21
BOOST B4 INNER COOLER		-20	-19	-16	3	5	7	8	9	10
BOOST AF INNER COOLER		-18	-18	-18	-15	-11	-8	-5	-4	-2
FUEL IN		-18	-17	-16	-15	-15	-16	-17	-18	-17
EXHAUST #1		92	86	94	286	258	296	316	328	329
EXHAUST #2		176	193	253	307	310	313	312	314	307
EXHAUST #3		136	157	212	293	311	321	326	330	321
EXHAUST #4		162	182	256	292	280	253	236	216	217
EXHAUST #5		141	175	243	308	324	332	332	337	334
EXHAUST #6		286	306	359	361	291	233	197	161	153
EXHAUST STACK		114	127	162	191	201	203	203	202	202

PRESSURE PARAMETERS										
OIL	(kpa)	156.5	169.3	182.8	199.8	213.9	232.2	246.4	266.8	281.9
FUEL	(kpa)	-15.6	-28.0	-37.6	-40.6	-42.9	-44.6	-45.9	-47.3	-48.0

**** SYMFUEL PROJECT 03-0538 TEST RESULTS ****.

RUN NUMBER		659	660	661	662	663	664	665	666	667
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	163517	163520	163524	163527	163530	163534	163538	163542	163546
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2366	2378	2124	1274	780	2355	2388	2385	2385
TORQUE	(N-M)	50.7	51.4	48.4	28.8	12.1	56.9	53.1	49.7	50.5
POWER	(KW)	12.6	12.8	10.8	2.8	1.0	14.3	13.3	12.4	12.6
SMOKE OPACITY	(%)	13.7	9.2	10.2	1.8	1.5	73.5	7.3	5.5	5.3

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-11	-10	-9	-9	-9	-8	-8	-7	-6
COOLANT OUT		-8	-7	-6	-6	-6	-5	-5	-4	-3
OIL SUMP		-6	-5	-4	-3	-3	-2	-3	-2	-1
OIL GALLERY		-12	-11	-11	-10	-9	-9	-8	-7	-6
INTAKE AIR		-21	-20	-20	-20	-20	-19	-20	-19	-19
CELL AMBIENT		-21	-21	-21	-21	-20	-20	-20	-20	-19
BOOST B4 INNER COOLER		10	11	12	7	3	8	12	12	13
BOOST AF INNER COOLER		-1	-0	1	1	-0	-2	-0	1	2
FUEL IN		-17	-17	-18	-16	-16	-16	-17	-15	-16
EXHAUST #1		329	322	309	220	167	229	273	284	288
EXHAUST #2		306	301	293	211	165	237	274	280	282
EXHAUST #3		315	304	297	208	158	234	273	282	286
EXHAUST #4		216	236	257	178	136	231	281	288	291
EXHAUST #5		332	331	321	225	173	253	287	301	306
EXHAUST #6		154	155	167	119	93	215	239	182	154
EXHAUST STACK		202	203	294	163	138	182	200	202	203

PRESSURE PARAMETERS										
OIL	(kpa)	296.5	311.4	323.5	328.4	328.1	333.5	348.3	358.9	368.9
FUEL	(kpa)	-48.6	-48.8	-47.7	-41.4	-34.0	-35.6	-36.4	-37.6	-38.6

RUN NUMBER		668	669	670	671	672	673	674	675	676
TEST CODE		1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2	1311 2
DAY	(julian)	5331	5331	5331	5331	5331	5331	5331	5331	5331
TIME	(military)	163549	163553	163557	1636 0	1636 4	1636 7	163610	163614	163618
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN	TARSAN

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	2384	2384	2386	2382	2368	2370	2362	2374	2376
TORQUE	(N-M)	49.4	49.7	50.6	50.1	49.9	50.3	50.0	51.0	49.4
POWER	(KW)	12.3	12.4	12.6	12.5	12.4	12.5	12.4	12.7	12.3
SMOKE OPACITY	(%)	5.5	5.8	5.4	5.9	6.2	5.5	4.6	3.4	3.2

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-5	-5	-4	-3	-3	-2	-2	-1	-0
COOLANT OUT		-3	-2	-1	-1	0	1	1	2	3
OIL SUMP		-8	-8	-7	-6	-6	-5	-5	-4	-3
OIL GALLERY		-6	-5	-5	-5	-4	-3	-2	-1	-1
INTAKE AIR		-19	-18	-18	-18	-18	-17	-17	-17	-17
CELL AMBIENT		-19	-19	-19	-19	-18	-18	-18	-18	-17
BOOST B4 INNER COOLER		14	14	15	15	16	18	19	20	21
BOOST AF INNER COOLER		3	3	4	5	5	6	7	8	9
FUEL IN		-15	-16	-16	-15	-15	-16	-15	-15	-15
EXHAUST #1		286	283	282	279	283	301	308	307	308
EXHAUST #2		281	282	280	277	279	285	293	294	288
EXHAUST #3		288	288	288	288	288	295	301	296	289
EXHAUST #4		297	300	300	298	307	322	327	329	326
EXHAUST #5		307	306	304	302	304	315	321	323	318
EXHAUST #6		138	123	122	121	121	167	212	264	313
EXHAUST STACK		204	205	206	206	208	218	226	232	236

PRESSURE PARAMETERS										
OIL	(kpa)	376.4	382.2	386.1	388.4	389.8	390.3	390.3	389.4	388.5
FUEL	(kpa)	-39.5	-40.4	-41.0	-41.6	-42.7	-44.1	-45.7	-47.4	-48.4

*** SYMUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST 2 -20 DEGREES C

RUN NUMBER	860	861	862	863	864	865	866	867	868
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	85119	85122	85125	85128	85131	85134	85137	85140	85143
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	1.5	1.5	1.5	3.5	-329.9	-339.5	-346.1	-22.8	-1.5
POWER (KW)	-0	-0	-0	-0	0	0	0	0	0
SMOKE OPACITY (%)	.6	.6	.6	.6	.6	.6	.6	.6	.6

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-20	-19	-19	-19	-19	-19	-20	-19	-19
COOLANT OUT	-19	-16	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-20	-20	-20	-20	-20	-20	-20	-20	-20
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-20	-20	-21	-21	-21	-21	-21	-21	-21
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-21	-21
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #2	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #3	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #4	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #5	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #6	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST STACK	-18	-18	-18	-18	-18	-18	-18	-18	-19

PRESSURE PARAMETERS									
OIL (kpa)	.5	.6	.5	.6	.6	.6	.6	.5	.6
FUEL (kpa)	28.8	28.8	28.8	28.8	29.3	29.7	30.1	30.7	31.3

COLD START TEST 2 -20 DEGREES C

RUN NUMBER	869	870	871	872	873	874	875	876	877
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	85145	85149	85152	85155	85158	852 1	852 4	852 7	85210
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	80.3	-335.5	-335.0	-346.3	-351.0	-351.4	-351.8	-351.6	-351.9
POWER (KW)	-0	0	0	0	0	0	0	0	0
SMOKE OPACITY (%)	.6	54.2	97.3	188.0	99.1	99.7	108.0	100.3	100.3

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-16	-16	-16	-16	-16	-17	-16
OIL SUMP	-20	-20	-20	-20	-20	-20	-20	-20	-20
OIL GALLERY	-20	-20	-20	-20	-19	-19	-19	-19	-19
INTAKE AIR	-22	-22	-22	-22	-22	-23	-23	-23	-23
CELL AMBIENT	-21	-21	-21	-21	-22	-21	-22	-22	-22
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-19	-20	-22	-23	-24	-24	-16	-18	-19
EXHAUST #2	-19	-20	-21	-23	-24	-24	-25	-21	-26
EXHAUST #3	-19	-20	-22	-23	-23	-24	-24	-25	-25
EXHAUST #4	-19	-20	-22	-23	-23	-24	-25	-25	-26
EXHAUST #5	-19	-20	-22	-23	-16	-17	-19	-20	-21
EXHAUST #6	-19	-19	-21	-22	-23	-24	-24	-25	-25
EXHAUST STACK	-19	-19	-20	-20	-20	-20	-20	-21	-21

PRESSURE PARAMETERS									
OIL (kpa)	.5	.5	.5	.5	.7	1.3	2.2	3.5	5.1
FUEL (kpa)	31.9	34.7	39.7	44.5	48.9	53.3	58.9	64.4	70.6

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****
COLD START TEST # -20 DEGREES C

RUN NUMBER	878	879	880	881	882	883	884	885	886
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	85213	85216	85219	85223	85226	85229	85232	85235	85238
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-m)	-352.2	-351.8	-314.6	-289.3	-266.7	-28.7	-1.0	.7	.8
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SHOKE OPACITY (%)	100.5	100.5	100.5	100.5	100.5	66.2	49.8	25.5	16.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-16	-16	-16	-16	-16	-15	-17	-16	-17
OIL SUMP	-20	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-23	-23	-23	-23	-24	-24	-24	-24	-24
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-19	-19	-19	-19	-20	-20	-20	-20	-20
EXHAUST #1	-20	-22	-23	-24	-24	-25	-25	-24	-24
EXHAUST #2	-26	-27	-17	-8	-2	-1	-1	-3	-2
EXHAUST #3	-26	-26	-26	-25	-25	-25	-24	-24	-24
EXHAUST #4	-26	-27	-27	-17	-18	-19	-19	-19	-19
EXHAUST #5	-22	-23	-24	-24	-14	-16	-16	-16	-16
EXHAUST #6	-26	-26	-27	-27	-27	-27	-27	-27	-26
EXHAUST STACK	-21	-22	-20	-18	-15	-16	-16	-16	-16

PRESSURE PARAMETERS									
OIL (kpa)	7.8	9.7	12.8	16.0	19.5	23.3	26.3	28.2	29.4
FUEL (kpa)	77.5	85.2	91.5	96.3	99.5	98.4	95.6	94.2	93.4

COLD START TEST # -20 DEGREES C

RUN NUMBER	887	888	889	890	891	892	893	894	895
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	85241	85244	85247	85250	85253	85256	85259	853 2	853 5
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-m)	.8	.8	.8	.8	.8	.8	.8	.8	.8
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SHOKE OPACITY (%)	9.6	5.8	4.3	2.9	1.9	1.6	1.6	1.4	1.1

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-24	-24	-24	-24	-24	-24	-24	-25	-25
CELL AMBIENT	-23	-23	-23	-23	-23	-23	-23	-24	-24
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-24	-24	-24	-24	-24	-23	-23	-23	-23
EXHAUST #2	-3	-4	-4	-5	-5	-6	-6	-7	-7
EXHAUST #3	-24	-24	-24	-24	-24	-23	-23	-22	-23
EXHAUST #4	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #5	-17	-17	-17	-17	-17	-17	-17	-17	-17
EXHAUST #6	-26	-26	-26	-26	-25	-25	-25	-25	-25
EXHAUST STACK	-17	-17	-17	-17	-17	-17	-17	-17	-17

PRESSURE PARAMETERS									
OIL (kpa)	30.2	30.6	30.9	31.2	31.4	31.5	31.6	31.6	31.6
FUEL (kpa)	92.9	92.6	92.4	92.4	92.3	92.3	92.2	92.2	92.1

*** SYN FUEL PROJECT 03-8539 TEST RESULTS ***
COLD START TEST # -20 DEGREES C

RUN NUMBER	896	897	898	899	900	901	902	903	904
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	853 3	853 11	853 14	853 17	9 139	9 142	9 145	9 148	9 151
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	-1	-1	-1	-1	570	609	657	625	643
TORQUE	(N-M)	.9	.8	.8	.8	33.7	34.9	34.1	33.7	36.9
POWER	(KW)	-0.0	-0.0	-0.0	-0.0	2.3	2.2	2.3	2.2	2.5
SMOKE OPACITY	(%)	.9	.8	.8	.7	100.6	100.6	100.6	100.6	100.6

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-16	-17	-18	-17	-16
COOLANT OUT		-17	-17	-17	-17	-19	-16	-16	-16	-17
OIL SUMP		-19	-19	-19	-19	-15	-15	-15	-14	-14
OIL GALLERY		-20	-20	-20	-20	-17	-17	-17	-17	-17
INTAKE AIR		-25	-25	-25	-25	-19	-19	-19	-19	-18
CELL AMBIENT		-24	-24	-24	-24	-19	-18	-18	-18	-18
BOOST #4 INNER COOLER		-19	-20	-20	-20	-20	-20	-20	-20	-20
BOOST #F INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		-23	-23	-23	-23	87	100	105	115	123
EXHAUST #2		-8	-8	-8	-8	209	224	234	239	236
EXHAUST #3		-23	-23	-23	-23	82	87	90	93	91
EXHAUST #4		-19	-19	-19	-19	119	135	140	146	157
EXHAUST #5		-17	-17	-18	-18	65	81	93	101	114
EXHAUST #6		-25	-25	-24	-24	10	17	11	13	8
EXHAUST STACK		-17	-17	-17	-17	50	58	64	58	73

PRESSURE PARAMETERS										
OIL	(kpa)	31.6	31.6	31.5	31.4	332.7	337.8	340.3	342.9	345.6
FUEL	(kpa)	92.0	92.0	92.0	91.9	77.2	57.9	66.3	72.3	77.4

COLD START TEST # -20 DEGREES C

RUN NUMBER	905	906	907	908	909	910	911	912	913
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	9 154	9 157	9 2 0	9 2 2	9 2 5	9 2 8	9 2 11	9 2 14	9 2 17
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	695	741	752	769	813	886	899	942	952
TORQUE	(N-M)	35.5	36.4	39.4	39.7	40.4	40.4	42.1	42.3	45.2
POWER	(KW)	2.6	2.8	3.1	3.2	3.4	3.7	4.0	4.2	4.5
SMOKE OPACITY	(%)	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.5	100.5

TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-12	-9	-8	-7	-7	-7	-6	-9	-7
COOLANT OUT		-16	-16	-16	-17	-16	-16	-16	-16	-16
OIL SUMP		-14	-14	-13	-13	-13	-13	-13	-12	-12
OIL GALLERY		-17	-17	-16	-16	-16	-16	-16	-16	-16
INTAKE AIR		-18	-18	-18	-18	-18	-18	-18	-18	-19
CELL AMBIENT		-18	-18	-18	-18	-18	-18	-18	-18	-18
BOOST #4 INNER COOLER		-20	-20	-20	-20	-20	-19	-19	-19	-19
BOOST #F INNER COOLER		-20	-20	-20	-20	-20	-19	-19	-19	-18
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		121	125	142	151	160	167	169	183	184
EXHAUST #2		229	222	215	216	215	210	219	232	240
EXHAUST #3		108	103	105	102	114	114	126	116	110
EXHAUST #4		158	160	162	168	171	180	183	186	189
EXHAUST #5		121	127	136	142	146	154	161	166	170
EXHAUST #6		4	11	13	7	3	-0	-2	-3	-4
EXHAUST STACK		74	74	80	86	92	92	104	109	113

PRESSURE PARAMETERS										
OIL	(kpa)	347.8	349.9	352.0	353.9	355.7	357.4	359.3	360.8	362.4
FUEL	(kpa)	80.1	81.6	82.1	82.9	84.3	88.4	93.9	99.3	101.7

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	914	915	916	917	918	919	920	921	922
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	9 220	9 223	9 225	9 228	9 231	9 234	9 237	9 240	9 243
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1001	975	1023	1037	1053	1055	1097	1102	1105
TORQUE (N-m)	46.1	46.0	46.5	46.1	46.9	45.0	45.2	45.2	44.7
POWER (KW)	4.8	4.3	5.0	5.0	5.2	5.3	5.1	5.2	5.2
SMOKE OPACITY (%)	100.5	100.5	100.5	100.6	100.5	100.5	100.5	100.5	100.5
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-6	-6	-5	-10	-6	-13	-7	-13	-12
COOLANT OUT	-15	-15	-15	-15	-15	-14	-14	-14	-14
OIL SUMP	-12	-12	-11	-11	-11	-11	-11	-11	-11
OIL GALLERY	-16	-16	-16	-15	-15	-15	-15	-15	-14
INTAKE AIR	-18	-18	-18	-18	-18	-18	-17	-17	-17
CELL AMBIENT	-18	-18	-18	-18	-18	-18	-17	-17	-17
BOOST B4 INNER COOLER	-19	-18	-18	-18	-17	-17	-17	-16	-16
BOOST AF INNER COOLER	-18	-17	-17	-16	-16	-15	-15	-14	-17
FUEL IN	-20	-20	-20	-20	-20	-20	-19	-19	-19
EXHAUST #1	186	186	193	192	196	182	185	196	188
EXHAUST #2	237	249	250	247	270	269	268	274	274
EXHAUST #3	109	109	101	104	118	124	136	139	135
EXHAUST #4	195	197	195	198	196	189	184	186	184
EXHAUST #5	173	175	171	178	192	190	184	185	184
EXHAUST #6	-4	-4	6	3	1	0	0	1	1
EXHAUST STACK	115	119	129	122	127	128	139	132	134
PRESSURE PARAMETERS									
OIL (kpa)	363.7	364.0	365.8	366.8	367.9	368.4	368.9	369.2	369.2
FUEL (kpa)	93.5	82.5	72.2	70.9	71.1	78.9	81.2	75.4	71.6

COLD START TEST @ -20 DEGREES C

RUN NUMBER	923	924	925	926	927	928	929	930	931
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	9 246	9 249	9 252	9 255	9 257	9 3 0	9 3 3	9 3 6	9 3 9
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5	57ZED5
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1112	1113	1137	1097	1226	1204	1199	1284	2372
TORQUE (N-m)	44.8	45.6	45.2	45.1	45.1	44.7	45.6	47.3	66.7
POWER (KW)	5.2	5.3	5.4	5.2	5.8	5.6	5.7	6.4	16.6
SMOKE OPACITY (%)	100.5	100.5	103.4	100.4	100.4	100.4	100.3	100.1	98.8
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-13	-12	-9	-11	-12	-11	-7	-9	-6
COOLANT OUT	-13	-13	-13	-13	-12	-12	-12	-12	-11
OIL SUMP	-9	-8	-8	-8	-8	-7	-8	-8	-7
OIL GALLERY	-14	-14	-13	-13	-13	-12	-12	-12	-11
INTAKE AIR	-17	-17	-17	-17	-17	-17	-17	-17	-17
CELL AMBIENT	-17	-17	-17	-17	-17	-17	-17	-17	-17
BOOST B4 INNER COOLER	-16	-15	-15	-15	-15	-14	-14	-14	-13
BOOST AF INNER COOLER	-13	-12	-12	-11	-11	-10	-10	-9	-8
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-16
EXHAUST #1	190	180	171	170	182	170	170	174	221
EXHAUST #2	290	317	320	313	303	307	324	323	375
EXHAUST #3	125	120	125	122	103	97	96	86	166
EXHAUST #4	186	188	206	202	200	217	222	236	302
EXHAUST #5	178	195	200	203	219	221	214	229	270
EXHAUST #6	2	2	3	1	4	5	6	7	81
EXHAUST STACK	135	139	142	143	144	145	148	150	177
PRESSURE PARAMETERS									
OIL (kpa)	359.1	369.0	368.8	368.2	367.9	367.5	367.2	366.9	371.3
FUEL (kpa)	79.7	68.1	66.6	66.8	65.8	62.2	61.1	60.4	75.4

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST # -20 DEGREES C

RUN NUMBER	932	933	934	935	936	937	938	939	940
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	9 312	9 315	9 318	9 321	9 324	9 327	9 330	9 333	9 336
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2326	2330	2343	2355	2358	2365	2363	2372	2361
TORQUE (N-M)	70.8	64.3	64.5	64.0	64.3	63.3	62.9	63.0	62.6
POWER (KW)	17.2	15.7	15.8	15.8	15.9	15.7	15.5	15.7	15.5
SMOKE OPACITY (%)	62.3	56.9	44.0	40.9	39.5	38.8	34.7	38.9	29.3

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-7	-7	-5	-5	-4	-4	-1	-1	-0
COOLANT OUT	-11	-4	-1	2	3	4	4	4	5
OIL SUMP	-6	-6	-5	-4	-3	-2	-1	-1	-6
OIL GALLERY	-11	-10	-10	-9	-8	-8	-7	-6	-5
INTAKE AIR	-17	-16	-16	-16	-16	-16	-15	-15	-15
CELL AMBIENT	-17	-17	-17	-17	-17	-16	-16	-16	-16
BOOST #4 INNER COOLER	-9	-7	-5	-3	-2	-1	0	1	2
BOOST #F INNER COOLER	-6	-3	-1	1	3	4	5	6	7
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	307	361	382	387	386	382	377	373	366
EXHAUST #2	376	372	364	357	352	345	341	337	333
EXHAUST #3	214	183	159	144	138	135	132	130	131
EXHAUST #4	333	354	362	368	371	373	370	367	363
EXHAUST #5	311	336	343	345	343	339	333	331	328
EXHAUST #6	106	73	57	50	47	46	46	46	47
EXHAUST STACK	197	205	208	209	210	210	209	208	207

PRESSURE PARAMETERS									
OIL (kpa)	376.8	382.2	387.0	391.1	394.4	397.0	399.1	400.7	401.8
FUEL (kpa)	106.4	113.4	117.4	115.6	119.2	122.8	115.0	115.5	116.5

COLD START TEST # -20 DEGREES C

RUN NUMBER	941	942	943	944	945	946	947	948	949
TEST CODE	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1	1611 1
DAY (julian)	6027	6027	6027	6027	6027	6027	6027	6027	6027
TIME (military)	9 339	9 342	9 345	9 348	9 351	9 354	9 356	9 359	9 4 2
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	2375	2379	2376	2030	1311	875	878	878	877
TORQUE (N-M)	63.2	62.7	61.6	59.8	44.0	34.1	38.1	38.7	38.4
POWER (KW)	15.7	15.6	15.3	12.7	6.0	3.1	3.5	3.6	3.5
SMOKE OPACITY (%)	27.9	26.8	25.4	15.5	3.0	1.5	1.7	1.7	1.8

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	1	2	2	2	6	8	9	9	10
COOLANT OUT	6	7	8	9	10	10	10	10	10
OIL SUMP	1	3	3	4	4	5	5	5	5
OIL GALLERY	-4	-3	-2	-2	-2	-1	-0	0	1
INTAKE AIR	-15	-15	-15	-14	-14	-14	-14	-14	-14
CELL AMBIENT	-16	-16	-15	-15	-15	-15	-15	-15	-15
BOOST #4 INNER COOLER	3	3	4	4	4	3	1	1	-0
BOOST #F INNER COOLER	8	8	9	10	9	9	8	7	7
FUEL IN	-19	-18	-18	-18	-18	-18	-18	-18	-18
EXHAUST #1	362	358	350	341	252	202	191	185	180
EXHAUST #2	331	328	324	316	241	199	188	180	174
EXHAUST #3	134	139	150	145	111	91	97	105	109
EXHAUST #4	360	357	352	336	248	198	186	179	172
EXHAUST #5	326	322	318	307	237	197	185	176	169
EXHAUST #6	47	48	49	49	42	34	45	52	58
EXHAUST STACK	207	206	206	209	168	149	145	143	141

PRESSURE PARAMETERS									
OIL (kpa)	402.5	402.8	402.7	401.7	396.9	389.9	381.3	374.8	359.0
FUEL (kpa)	118.2	122.7	122.6	147.4	155.9	165.2	176.7	180.5	179.7

*** SYNFUEL PROJECT 03-2538 TEST RESULTS ***
 COLD START TEST R -20 DEGREES C

RUN NUMBER		950	951	952	953
TEST CODE		1611 1	1611 1	1611 1	1611 1
DAY	(julian)	6027	6027	6027	6027
TIME	(military)	9 4 5	9 4 8	9 4 1	9 4 4
PHASE		1	1	1	1
TYPE FUEL		57ZEBS	57ZEBS	57ZEBS	57ZEBS
ENGINE PARAMETERS					
ENGINE SPEED	(rpm)	879	871	877	875
TORQUE	(N-M)	38.1	38.1	38.1	38.2
POWER	(KW)	3.5	3.5	3.5	3.5
SMOKE OPACITY	(%)	1.8	1.8	1.8	1.8
TEMPERATURE PARAMETERS (deg.c)					
COOLANT IN		11	11	11	11
COOLANT OUT		10	10	10	10
OIL SUMP		5	6	6	7
OIL GALLERY		2	3	3	4
INTAKE AIR		-14	-14	-14	-14
CELL AMBIENT		-15	-15	-15	-15
BOOST 94 INNER COOLER		-1	-1	-2	-2
BOOST AF INNER COOLER		6	6	5	5
FUEL IN		-17	-17	-17	-17
EXHAUST #1		174	169	165	163
EXHAUST #2		168	164	159	156
EXHAUST #3		113	115	119	120
EXHAUST #4		167	153	160	157
EXHAUST #5		163	158	154	151
EXHAUST #6		53	67	71	73
EXHAUST STACK		139	138	137	136
PRESSURE PARAMETERS					
OIL	(kpa)	363.8	359.2	355.2	351.4
FUEL	(kpa)	188.4	179.3	178.4	178.8

**** SYNFUEL PROJECT 03-8538 TEST RESULTS ****
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	954	955	956	957	958	959	960	961	962
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104135	104138	104141	104143	104147	104150	104153	104156	104159
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-2.4	-2.4	28.7	-296.0	-355.7	-352.5	-358.6	-339.7	-324.1
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	.4	.4	.4	.4	87.5	99.2	100.2	100.3	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-20	-19	-19	-20	-19	-19	-19	-19	-19
COOLANT OUT	-19	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-20	-19	-19	-19	-20	-20	-20	-20	-20
OIL GALLERY	-20	-20	-20	-20	-20	-20	-19	-19	-19
INTAKE AIR	-21	-21	-21	-21	-21	-21	-22	-22	-22
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST B4 INNER COOLER	-19	-19	-18	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	-19	-19	-19	-19	-21	-22	-23	-24	-25
EXHAUST #2	-19	-19	-19	-19	-21	-22	-24	-25	-25
EXHAUST #3	-19	-19	-19	-19	-21	-23	-23	-24	-25
EXHAUST #4	-19	-19	-19	-19	-21	-22	-24	-25	-25
EXHAUST #5	-19	-17	-19	-19	-21	-22	-23	-24	-25
EXHAUST #6	-19	-21	-19	-19	-20	-22	-23	-24	-25
EXHAUST STACK	-18	-18	-18	-18	-19	-20	-20	-21	-21

PRESSURE PARAMETERS

OIL (kpa)	4.4	4.4	4.3	4.4	4.3	4.3	4.6	5.7	7.4
FUEL (kpa)	55.0	55.0	55.8	58.6	65.2	73.1	81.6	90.3	96.8

COLD START TEST @ -20 DEGREES C

RUN NUMBER	963	964	965	966	967	968	969	970	971
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	10422	1042 5	1042 8	104211	104214	104217	104220	104223	104226
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-318.4	-308.1	-300.0	-294.4	-290.9	-288.4	-286.4	-276.7	-283.8
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-20	-20	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-19	-19	-19	-20	-20	-20	-20	-20	-20
INTAKE AIR	-22	-22	-22	-22	-22	-23	-23	-23	-23
CELL AMBIENT	-20	-21	-21	-21	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-19	-19	-19	-19	-19	-20	-20	-20	-20
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-20
EXHAUST #1	-26	-27	-27	-28	-28	-28	-29	-29	-29
EXHAUST #2	-26	-27	-27	-28	-28	-28	-29	-19	-21
EXHAUST #3	-26	-26	-27	-27	-28	-28	-28	-27	-28
EXHAUST #4	-27	-27	-28	-28	-28	-29	-29	-29	-29
EXHAUST #5	-26	-27	-27	-28	-28	-28	-28	-29	-29
EXHAUST #6	-25	-26	-26	-26	-27	-27	-27	-27	-27
EXHAUST STACK	-22	-22	-22	-23	-23	-23	-23	-22	-22

PRESSURE PARAMETERS

OIL (kpa)	9.3	11.4	13.7	17.1	20.3	23.9	27.2	30.7	34.1
FUEL (kpa)	100.9	103.3	104.9	105.7	106.1	106.5	106.5	106.8	106.9

*** SYNFUEL PROJECT 03-6530 TEST RESULTS ***
COLD START TEST 7 -20 DEGREES C

RUN NUMBER	972	973	974	975	976	977	978	979	990
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104229	104233	104236	104239	104242	104245	104248	104251	104255
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-251.0	-245.8	-281.9	-258.9	-246.7	-271.7	-58.9	-5.2	-3.2
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	75.2	45.0	25.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-23	-23	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-29	-5	-8	-2	4	-1	9	6	5
EXHAUST #2	-12	-14	-16	-9	-3	-7	-1	-2	-3
EXHAUST #3	-27	-26	-25	-25	-24	-24	-23	-23	-23
EXHAUST #4	-29	-29	-29	-18	-20	-21	-22	-22	-22
EXHAUST #5	-29	-29	-29	-28	-28	-28	-28	-28	-27
EXHAUST #6	-27	-27	-27	-27	-27	-27	-27	-27	-27
EXHAUST STACK	-20	-17	-18	-15	-14	-15	-13	-13	-14

PRESSURE PARAMETERS									
OIL (kpa)	37.8	41.3	44.9	48.3	51.7	55.3	58.4	60.1	61.2
FUEL (kpa)	107.1	106.8	107.0	107.0	106.9	106.8	102.8	97.9	95.3

COLD START TEST 8 -20 DEGREES C

RUN NUMBER	981	982	983	984	985	986	987	988	989
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104258	1043 1	1043 4	1043 7	104310	104313	104316	104319	104322
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-3.1	-3.1	-3.1	-3.1	-3.0	-3.1	-3.1	-3.0	-3.0
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	16.3	7.7	4.1	2.2	1.4	1.1	1.0	.8	.6

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-18	-17	-18	-18	-18	-18	-18	-18	-18
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-24	-24	-24	-24	-24	-24	-24	-24	-24
CELL AMBIENT	-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	4	3	2	1	0	-1	-2	-2	-2
EXHAUST #2	-3	-4	-4	-5	-5	-6	-6	-7	-7
EXHAUST #3	-23	-23	-23	-22	-22	-22	-22	-22	-22
EXHAUST #4	-22	-22	-22	-22	-22	-22	-22	-21	-21
EXHAUST #5	-27	-27	-27	-26	-26	-26	-26	-25	-25
EXHAUST #6	-26	-26	-26	-26	-26	-25	-25	-25	-25
EXHAUST STACK	-14	-14	-14	-14	-14	-14	-15	-15	-15

PRESSURE PARAMETERS									
OIL (kpa)	61.9	62.2	62.4	62.6	62.6	62.5	62.3	62.1	61.9
FUEL (kpa)	94.0	93.3	92.9	92.4	92.1	91.8	91.5	91.3	91.1

*** SYNFUEL PROJECT #3-8538
COLD START TEST @ -20 DEGREES C

TEST RESULTS ***

RUN NUMBER	990	991	992	993	994	995	996	997	998
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104325	104328	104331	104334	104337	104340	104343	104346	104350
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-3.0	-3.1	-3.0	-3.6	-3.0	-3.9	-1.4	-327.2	-303.2
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (%)	.6	.5	.5	.5	.5	.5	.6	87.4	99.8
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-18	-17	-18	-18	-18	-18	-17	-18
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-24	-24	-25	-25	-25	-25	-25	-25	-25
CELL AMBIENT	-23	-23	-24	-24	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-3	-4	-4	-5	-5	-6	-7	-8	-11
EXHAUST #2	-8	-8	-8	-9	-9	-9	-10	-11	-14
EXHAUST #3	-22	-22	-22	-22	-22	-22	-22	-21	-23
EXHAUST #4	-21	-21	-21	-21	-21	-21	-20	-17	-19
EXHAUST #5	-25	-25	-25	-25	-24	-24	-21	-23	-24
EXHAUST #6	-25	-25	-24	-24	-24	-24	-23	-24	-25
EXHAUST STACK	-15	-15	-15	-15	-15	-16	-17	-16	-17
PRESSURE PARAMETERS									
OIL (kpa)	61.6	61.3	60.9	60.6	60.2	59.8	59.4	60.1	65.1
FUEL (kpa)	90.9	96.7	90.6	90.3	90.2	91.0	91.0	95.3	101.0

COLD START TEST @ -20 DEGREES C

RUN NUMBER	999	1000	1001	1002	1003	1004	1005	1006	1007
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104353	104356	1044 0	1044 3	1044 6	1044 9	104412	104415	104418
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-235.4	-275.0	-282.3	-238.2	-253.1	-235.3	-235.8	-278.3	-238.9
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (%)	100.3	100.3	100.4	100.4	100.4	100.4	100.4	100.4	100.4
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-20	-19	-19	-19	-19	-20	-20	-20
COOLANT OUT	-17	-17	-17	-17	-17	-17	-16	-17	-17
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-20	-20	-20	-20	-20	-20	-20	-20	-20
INTAKE AIR	-25	-25	-25	-25	-25	-25	-25	-26	-26
CELL AMBIENT	-24	-24	-24	-24	-24	-24	-25	-25	-25
BOOST B4 INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-13	-15	-17	-9	-11	-13	-15	-17	-18
EXHAUST #2	-6	-10	-4	2	-2	1	-1	-4	1
EXHAUST #3	-22	-23	-23	-22	-23	-23	-23	-23	-23
EXHAUST #4	-11	-4	-6	-9	9	13	28	20	15
EXHAUST #5	-24	-24	-17	-18	-10	-12	-4	-7	-1
EXHAUST #6	-25	-25	-26	-16	-17	-19	-20	-21	-21
EXHAUST STACK	-15	-15	-14	-12	-10	-9	-7	-9	-8
PRESSURE PARAMETERS									
OIL (kpa)	70.0	74.7	79.3	84.0	88.7	93.5	98.5	103.5	108.6
FUEL (kpa)	104.1	105.6	106.5	106.6	107.1	107.2	106.9	107.1	106.9

*** SYNFUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	1008	1009	1010	1011	1012	1013	1014	1015	1016
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104421	104424	104427	104430	104433	104437	104440	104443	104446
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (K-H)	-275.4	-239.8	-257.0	-218.7	-206.1	-193.7	-279.8	-267.7	-223.5
POWER (KW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-20	-20	-20	-20	-19	-20	-19	-20	-20
COOLANT OUT	-17	-17	-16	-17	-16	-17	-16	-17	-17
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-26	-26	-26	-26	-26	-26	-26	-26	-26
CELL AMBIENT	-25	-25	-25	-25	-25	-25	-25	-25	-25
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-19	-20	-20	-21	-12	-9	-7	-9	-9
EXHAUST #2	-2	2	-2	-5	-7	-8	-10	-12	-13
EXHAUST #3	-24	-14	-17	-18	-19	-11	-13	-15	-16
EXHAUST #4	10	5	11	11	12	15	10	5	9
EXHAUST #5	-5	-8	-1	-4	4	-0	-3	-6	-8
EXHAUST #6	-22	-23	-23	-14	-6	-0	-1	-13	-15
EXHAUST STACK	-10	-9	-9	-10	-8	-7	-9	-11	-12

PRESSURE PARAMETERS									
OIL (kpa)	113.9	119.0	124.2	129.6	135.0	140.3	145.8	151.1	156.4
FUEL (kpa)	107.0	107.0	106.8	106.6	106.3	106.3	106.2	105.9	105.8

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1017	1018	1019	1020	1021	1022	1023	1024	1025
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104449	104453	104456	104459	1045 2	1045 5	1045 8	104511	104514
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (K-H)	-11.5	-3.2	-3.1	-3.0	-3.0	-2.9	-3.0	-3.0	-3.0
POWER (KW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SMOKE OPACITY (%)	65.2	30.7	15.7	6.8	3.5	2.5	1.2	1.3	1.0

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
COOLANT OUT	-17	-18	-18	-18	-18	-18	-18	-18	-18
OIL SUMP	-18	-18	-18	-18	-19	-19	-19	-19	-19
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-25	-25	-25	-25	-25	-24	-24	-24	-24
CELL AMBIENT	-25	-24	-24	-24	-24	-24	-24	-24	-24
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-4	-5	-5	-6	-6	-7	-7	-8	-8
EXHAUST #2	-13	-13	-14	-14	-14	-14	-14	-14	-14
EXHAUST #3	-16	-16	-16	-16	-17	-17	-17	-17	-17
EXHAUST #4	8	7	6	5	4	4	3	2	1
EXHAUST #5	-9	-9	-10	-10	-10	-11	-11	-11	-11
EXHAUST #6	-15	-15	-15	-15	-15	-16	-16	-16	-16
EXHAUST STACK	-12	-12	-12	-12	-13	-13	-13	-13	-13

PRESSURE PARAMETERS									
OIL (kpa)	157.2	156.1	154.3	152.0	149.5	146.9	143.9	141.2	138.5
FUEL (kpa)	99.9	96.2	94.6	93.7	93.1	92.6	92.3	92.3	91.8

*** SYNFUEL PROJECT 03-8539
COLD START TEST @ -26 DEGREES C

TEST RESULTS ***

RUN NUMBER	1026	1027	1028	1029	1030	1031	1032	1033	1034
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104517	104520	104523	104526	104529	104532	104535	104538	104541
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-1	-1	-1
TORQUE (N-M)	-3.0	-3.0	-3.0	-2.9	-2.9	-2.9	-3.0	-2.9	-2.9
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (%)	1.1	1.6	.9	1.0	.9	.8	.7	.7	.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-20	-20	-19	-20	-20	-20	-20	-20	-20
COOLANT OUT	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-24	-24	-24	-24	-24	-24	-23	-23	-23
CELL AMBIENT	-24	-24	-24	-24	-24	-24	-23	-23	-23
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-8	-9	-9	-9	-10	-10	-10	-11	-11
EXHAUST #2	-14	-14	-15	-15	-15	-15	-15	-15	-15
EXHAUST #3	-17	-17	-17	-17	-17	-17	-17	-17	-17
EXHAUST #4	1	0	0	-1	-2	-2	-3	-3	-4
EXHAUST #5	-12	-12	-12	-12	-13	-13	-13	-13	-13
EXHAUST #6	-16	-16	-16	-16	-16	-16	-16	-17	-17
EXHAUST STACK	-14	-14	-14	-14	-14	-14	-15	-15	-15

PRESSURE PARAMETERS

OIL (kpa)	135.9	133.3	130.6	128.1	125.7	123.2	120.8	118.5	116.3
FUEL (kpa)	91.7	91.5	91.4	91.2	91.2	91.1	91.0	90.9	90.8

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1035	1036	1037	1038	1039	1040	1041	1042	1043
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104545	104548	104551	104554	104557	1046 0	1046 3	1046 6	1046 10
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-1	-1	-1	-1	-1	-1	-0	-0	-0
TORQUE (N-M)	-2.9	-87.0	-294.5	-258.2	-269.7	-274.8	-271.2	-268.5	-245.6
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (%)	.5	33.8	95.2	99.9	100.3	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-20	-20	-19	-19	-20	-20	-20	-20	-20
COOLANT OUT	-18	-18	-18	-17	-17	-17	-17	-17	-18
OIL SUMP	-19	-19	-19	-19	-19	-19	-19	-19	-19
OIL GALLERY	-19	-19	-20	-19	-19	-19	-19	-19	-19
INTAKE AIR	-23	-23	-23	-23	-23	-23	-23	-23	-23
CELL AMBIENT	-23	-23	-23	-23	-23	-23	-23	-23	-23
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-22	-21
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-12	-11	-13	-15	-16	-18	-19	-19	-20
EXHAUST #2	-15	-15	-16	-17	-18	-19	-20	-21	-21
EXHAUST #3	-17	-17	-18	-19	-20	-21	-22	-23	-23
EXHAUST #4	-5	-5	-7	-8	-10	-12	-14	-15	-15
EXHAUST #5	-15	-14	-15	-16	-18	-19	-19	-19	-16
EXHAUST #6	-16	-17	-18	-9	-12	-14	-15	-17	-9
EXHAUST STACK	-15	-15	-16	-16	-16	-17	-18	-18	-18

PRESSURE PARAMETERS

OIL (kpa)	113.7	111.8	116.9	122.3	127.7	133.0	138.3	143.7	149.1
FUEL (kpa)	91.6	91.9	97.6	101.4	103.9	105.2	105.7	106.1	106.3

*** SYNFUEL PROJECT 83-5538 TEST RESULTS ***
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	1044	1045	1046	1047	1048	1049	1050	1051	1052
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	194613	194616	194619	194622	194625	194628	194631	194634	194637
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-0	-1	-1	-0	-0	-0	-0	-0	-0
TORQUE (N-M)	-248.4	-240.8	-245.9	-258.7	-257.4	-243.5	-245.1	-252.7	-241.8
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-20	-20	-20	-19	-20	-20	-19	-20	-20
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-22	-22	-22	-22	-22	-22	-22	-22	-22
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST B4 INNER COOLER	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST AF INNER COOLER	-21	-20	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-21	-21	-13	-14	-16	-17	-13	-13	-12
EXHAUST #2	-22	-17	-14	-15	-17	-18	-11	-13	-7
EXHAUST #3	-23	-15	-16	-17	-18	-19	-19	-19	-19
EXHAUST #4	-16	-17	-18	-19	-20	-20	-21	-20	-20
EXHAUST #5	-17	-18	-19	-19	-20	-20	-21	-21	-14
EXHAUST #6	-11	-13	-14	-16	-17	-18	-19	-11	-13
EXHAUST STACK	-19	-17	-17	-17	-18	-18	-18	-17	-16

PRESSURE PARAMETERS

OIL (kpa)	154.5	160.0	165.4	170.8	176.2	181.5	187.1	192.4	197.8
FUEL (kpa)	186.3	186.4	186.3	186.2	186.2	186.1	185.9	185.7	185.7

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1053	1054	1055	1056	1057	1058	1059	1060	1061
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	194640	194643	194646	194649	194653	194656	194659	1947 2	1947 3
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (N-M)	-244.5	-188.4	-198.7	-210.6	-13.2	-3.7	-3.2	-3.2	-3.2
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	100.4	100.4	100.4	100.4	63.6	38.4	19.2	11.1	6.6

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-19	-19	-19	-20	-19	-19	-20	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-18	-18	-18	-18
OIL SUMP	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-22	-22	-22	-22	-22	-22	-22	-22	-21
CELL AMBIENT	-22	-22	-22	-22	-22	-22	-22	-22	-21
BOOST B4 INNER COOLER	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-14	-6	-8	-1	-3	-3	-4	-4	-3
EXHAUST #2	-10	-2	-5	-7	-8	-8	-8	-6	-6
EXHAUST #3	-20	-11	-13	-14	-15	-15	-15	-15	-15
EXHAUST #4	-20	-20	-18	-19	-19	-19	-19	-19	-19
EXHAUST #5	-16	-17	-9	-12	-12	-13	-13	-13	-13
EXHAUST #6	-14	-7	-1	-4	-5	-6	-6	-6	-7
EXHAUST STACK	-17	-13	-13	-13	-14	-14	-14	-14	-14

PRESSURE PARAMETERS

OIL (kpa)	203.0	208.1	213.3	218.8	216.4	212.2	206.7	200.9	195.8
FUEL (kpa)	185.4	185.4	185.3	185.3	185.3	185.3	184.7	183.8	183.2

*** SYN FUEL PROJECT 03-8538
 COLD START TEST # -20 DEGREES C

TEST RESULTS ***

RUN NUMBER	1062	1063	1064	1065	1066	1067	1068	1069	1070
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	1047 8	1047 11	1047 14	1047 17	1047 20	1047 23	1047 26	1047 29	1047 32
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (N-M)	-3.2	-3.2	-3.2	-3.2	-3.1	-3.2	-3.1	-3.2	-3.1
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	4.5	3.3	2.3	1.8	1.2	.9	.9	.8	.7
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-20	-19	-19
COOLANT OUT	-18	-18	-18	-18	-18	-19	-18	-19	-18
OIL SUMP	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-21	-21	-21	-21	-21	-21	-21	-21	-21
CELL AMBIENT	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-5	-6	-6	-7	-7	-8	-8	-8	-9
EXHAUST #2	-9	-10	-10	-10	-10	-11	-11	-11	-11
EXHAUST #3	-15	-15	-15	-15	-16	-16	-16	-15	-16
EXHAUST #4	-19	-19	-18	-18	-18	-18	-18	-18	-18
EXHAUST #5	-13	-14	-14	-14	-14	-14	-14	-14	-15
EXHAUST #6	-7	-8	-8	-8	-9	-9	-9	-9	-10
EXHAUST STACK	-14	-15	-15	-15	-15	-15	-15	-15	-15
PRESSURE PARAMETERS									
OIL (kpa)	189.2	183.5	178.2	173.0	168.1	163.3	158.5	154.1	150.0
FUEL (kpa)	92.7	92.4	92.1	91.9	91.7	91.5	91.4	91.3	91.2

COLD START TEST # -20 DEGREES C

RUN NUMBER	1071	1072	1073	1074	1075	1076	1077	1078	1079
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	1047 35	1047 38	1047 41	1047 44	1047 47	1047 51	1047 54	1047 57	1048 0
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (N-M)	-3.1	-3.2	-3.1	-3.1	-3.2	-282.8	-231.2	-259.4	-268.5
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SNOKE OPACITY (%)	.6	.6	.6	.6	.5	88.9	99.3	109.2	109.4
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-18	-18	-18	-18	-18	-18	-18	-17	-18
OIL SUMP	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-21	-21	-21	-21	-21	-21	-21	-21	-21
CELL AMBIENT	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST B4 INNER COOLER	-22	-22	-22	-22	-22	-22	-22	-22	-22
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-9	-9	-10	-10	-10	-11	-13	-14	-16
EXHAUST #2	-12	-12	-12	-12	-12	-13	-8	-9	-4
EXHAUST #3	-16	-16	-16	-16	-16	-17	-17	-18	-18
EXHAUST #4	-18	-18	-18	-18	-18	-18	-19	-20	-20
EXHAUST #5	-15	-15	-15	-15	-15	-15	-16	-17	-10
EXHAUST #6	-10	-10	-10	-11	-11	-12	-13	-15	-16
EXHAUST STACK	-16	-16	-16	-16	-16	-16	-16	-17	-15
PRESSURE PARAMETERS									
OIL (kpa)	146.1	142.3	138.6	135.1	131.8	124.9	120.8	116.6	112.6
FUEL (kpa)	91.3	91.0	90.9	90.8	90.8	90.7	90.8	102.2	103.8

*** SYNFUEL PROJECT 03-8578 TEST RESULTS ***
 COLD START TEST R -20 DEGREES C

RUN NUMBER	1080	1081	1082	1083	1084	1085	1086	1087	1088
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	1048 3	1048 6	1048 9	1048 12	1048 15	1048 18	1048 22	1048 25	1048 28
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	1	-0
TORQUE (N-H)	-241.4	-237.7	-250.0	-228.7	-236.2	-216.2	-211.0	-194.2	-240.6
POWER (KW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-18	-18	-17	-17	-17	-17	-18	-17	-17
OIL SUMP	-18	-18	-18	-18	-18	-18	-18	-18	-18
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-21	-21	-21	-21	-21	-21	-21	-20	-20
CELL AMBIENT	-21	-21	-21	-21	-21	-21	-21	-21	-20
BOOST B4 INNER COOLER	-22	-22	-22	-22	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	-17	-18	-9	-1	-4	-7	-2	2	8
EXHAUST #2	-6	-8	-10	-11	-12	-13	-7	-9	-4
EXHAUST #3	-12	-14	-15	-7	-10	-5	-7	-9	-9
EXHAUST #4	-19	-19	-20	-20	-20	-19	-20	-20	-20
EXHAUST #5	-12	-6	-9	-10	-12	-6	-9	-11	-12
EXHAUST #6	-9	-11	-12	-14	-7	-9	-11	-10	-7
EXHAUST STACK	-14	-15	-15	-13	-14	-12	-12	-12	-11

PRESSURE PARAMETERS									
OIL (tpa)	158.5	164.2	170.1	175.9	181.6	187.2	194.5	200.3	205.7
FUEL (tpa)	104.3	105.0	105.5	105.8	106.0	106.1	105.9	106.0	105.7

COLD START TEST R -20 DEGREES C

RUN NUMBER	1089	1090	1091	1092	1093	1094	1095	1096	1097
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104831	104835	104838	104841	104844	104847	104850	104853	104856
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (N-H)	-187.9	-182.5	-172.7	-183.2	-176.7	-154.5	-95.0	-139.3	-83.7
POWER (KW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-16	-16	-17	-17	-17	-17	-17
OIL SUMP	-18	-18	-18	-18	-18	-17	-18	-17	-17
OIL GALLERY	-19	-19	-19	-19	-19	-19	-19	-19	-19
INTAKE AIR	-20	-20	-20	-20	-20	-20	-20	-20	-20
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	4	8	19	24	30	33	36	37	47
EXHAUST #2	-6	0	-2	-5	-1	5	8	17	22
EXHAUST #3	-11	-5	-6	-8	-9	-2	3	1	0
EXHAUST #4	-10	-11	-12	-13	-13	-13	-12	-11	-4
EXHAUST #5	1	-1	-4	-3	3	9	9	11	13
EXHAUST #6	-9	-11	-12	-13	-14	-7	-7	-4	-6
EXHAUST STACK	-11	-9	-8	-7	-6	-4	-2	-1	2

PRESSURE PARAMETERS									
OIL (tpa)	211.0	216.1	221.2	226.1	230.9	235.6	240.2	244.6	249.6
FUEL (tpa)	105.6	105.1	105.3	105.2	105.3	105.1	105.0	105.0	105.0

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	1898	1899	1100	1101	1102	1103	1104	1105	1106
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104859	1049 2	1049 5	1049 8	104911	104914	104918	104921	104924
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	3	8	-0	-0	1	2
TORQUE (N-R)	-107.6	-88.9	-142.5	-75.8	-68.2	-90.5	-59.5	-73.2	-71.7
POWER (KW)	0	0	0	-0	-0	0	0	-0	-0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.3	100.4	100.4	100.4	100.4
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-16	-17	-17	-16	-16	-17	-17	-17
OIL SUMP	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL GALLERY	-19	-19	-19	-19	-19	-19	-18	-18	-18
INTAKE AIR	-20	-20	-20	-20	-20	-20	-20	-20	-20
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	47	55	55	62	62	63	68	69	71
EXHAUST #2	23	29	27	36	38	42	41	43	45
EXHAUST #3	-1	5	3	9	12	10	7	11	10
EXHAUST #4	1	5	4	8	13	20	21	22	20
EXHAUST #5	8	5	14	14	16	17	17	18	20
EXHAUST #6	-8	-10	-4	-6	7	4	0	-2	-5
EXHAUST STACK	2	5	5	7	10	10	11	12	13
PRESSURE PARAMETERS									
OIL (kpa)	252.7	256.9	260.5	264.3	267.6	270.8	274.3	277.4	290.4
FUEL (kpa)	105.1	105.1	104.9	105.1	105.0	104.6	104.9	105.3	105.3

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1107	1108	1109	1110	1111	1112	1113	1114	1115
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104928	104931	104934	104937	104940	104943	104946	104949	104952
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS									
ENGINE SPEED (rpm)	1	-0	-0	4	3	0	4	1	8
TORQUE (N-R)	-51.0	-29.1	-86.9	-92.7	-38.9	-9.9	-42.7	-19.1	-37.2
POWER (KW)	-0	0	0	-0	-0	-0	-0	-0	-0
SMOKE OPACITY (%)	100.3	100.4	100.4	100.4	100.4	100.3	100.5	100.4	100.4
TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL GALLERY	-18	-18	-18	-18	-18	-18	-18	-18	-18
INTAKE AIR	-20	-20	-20	-20	-20	-20	-20	-20	-20
CELL AMBIENT	-20	-20	-20	-20	-20	-20	-20	-19	-19
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	73	73	80	79	77	81	80	82	84
EXHAUST #2	46	48	53	54	60	62	64	67	69
EXHAUST #3	13	16	18	20	16	18	15	22	24
EXHAUST #4	48	43	44	43	47	50	52	53	53
EXHAUST #5	28	22	23	24	28	28	32	34	33
EXHAUST #6	1	5	2	-1	-3	9	6	9	12
EXHAUST STACK	15	17	17	17	17	19	19	21	22
PRESSURE PARAMETERS									
OIL (kpa)	283.4	285.8	287.8	290.6	292.4	294.0	296.3	298.1	300.0
FUEL (kpa)	105.6	106.8	105.7	105.7	105.8	105.9	105.9	105.6	105.7

*** SYNFUEL PROJECT 03-6538 TEST RESULTS ***
 COLD START TEST @ -20 DEGREES C

RUN NUMBER	1116	1117	1118	1119	1120	1121	1122	1123	1124
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	104955	104959	1050 2	1050 5	1050 8	105011	105014	105017	105021
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	0	0	3	-0	1	-0	4	2	0
TORQUE (N-m)	-40.3	7.8	-60.6	-39.4	-27.6	-53.4	-9.6	7.7	10.8
POWER (KW)	-0	0	-0	0	-0	-0	-0	0	0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-18	-17	-17	-17
OIL SUMP	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL GALLERY	-18	-18	-18	-18	-18	-18	-18	-18	-18
INTAKE AIR	-20	-19	-19	-19	-19	-19	-19	-19	-19
CELL AMBIENT	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	68	93	91	92	94	93	94	92	93
EXHAUST #2	58	68	71	69	71	73	74	74	76
EXHAUST #3	24	30	25	21	24	25	22	33	32
EXHAUST #4	21	53	56	59	62	62	67	73	73
EXHAUST #5	35	37	41	32	32	31	34	34	38
EXHAUST #6	30	29	27	29	28	25	25	24	32
EXHAUST STACK	22	24	24	23	25	25	25	28	29

PRESSURE PARAMETERS									
OIL (kpa)	301.5	302.8	304.2	304.7	306.1	306.7	307.6	309.0	309.9
FUEL (kpa)	195.7	186.3	185.5	195.3	195.3	185.2	185.5	185.8	185.8

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1125	1126	1127	1128	1129	1130	1131	1132	1133
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6029	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105024	105027	105030	105033	105036	105039	105042	105045	105048
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	12	3	1	1	74	1	26	3	4
TORQUE (N-m)	-13.6	-4.7	13.3	14.8	17.1	15.5	1.8	16.5	18.3
POWER (KW)	-0	-0	0	0	0	0	0	0	0
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
COOLANT OUT	-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP	-17	-16	-16	-16	-16	-16	-16	-16	-16
OIL GALLERY	-18	-18	-18	-18	-18	-18	-18	-18	-18
INTAKE AIR	-19	-19	-19	-19	-19	-19	-19	-19	-19
CELL AMBIENT	-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST B4 INNER COOLER	-21	-21	-21	-21	-21	-21	-21	-21	-21
BOOST AF INNER COOLER	-21	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	94	96	99	100	101	106	104	106	105
EXHAUST #2	77	78	82	81	84	88	87	89	91
EXHAUST #3	34	31	36	38	38	34	36	39	38
EXHAUST #4	76	78	79	80	85	88	86	86	87
EXHAUST #5	48	43	42	40	43	45	43	38	41
EXHAUST #6	33	31	36	35	39	43	44	53	56
EXHAUST STACK	30	31	33	34	35	37	37	37	39

PRESSURE PARAMETERS									
OIL (kpa)	310.9	311.5	312.3	312.9	314.0	314.4	314.9	315.3	315.7
FUEL (kpa)	195.7	185.8	185.8	185.8	185.9	186.1	185.7	185.9	186.1

*** SYNFUEL PROJECT 83-8538
COLD START TEST # -20 DEGREES C

TEST RESULTS ***

RUN NUMBER		1134	1135	1136	1137	1138	1139	1140	1141	1142
TEST CODE		1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY	(julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME	(military)	105051	105054	105057	1051 0	1051 3	1051 4	1051 9	105112	105115
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	113	-0	75	2	0	21	39	3	1
TORQUE	(M-K)	18.5	4.2	8.3	15.5	-39.2	3.2	7.4	15.2	19.8
POWER	(KW)	2	-0	1	1	-0	1	0	0	0
SMOKE OPACITY	(%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-19	-18	-18	-18
COOLANT OUT		-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP		-16	-16	-16	-16	-16	-16	-16	-16	-16
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-19	-19	-19	-19	-19	-19	-19	-19	-19
CELL AMBIENT		-19	-19	-19	-19	-19	-19	-19	-19	-19
BOOST B4 INNER COOLER		-21	-21	-21	-21	-21	-20	-20	-20	-20
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		102	103	101	103	103	102	108	111	110
EXHAUST #2		92	90	91	92	90	90	90	90	89
EXHAUST #3		41	43	43	38	34	35	35	35	36
EXHAUST #4		88	90	91	93	89	90	90	92	95
EXHAUST #5		43	43	45	49	46	41	45	47	51
EXHAUST #6		57	54	55	56	54	52	54	54	62
EXHAUST STACK		37	40	40	40	39	39	40	41	41
PRESSURE PARAMETERS										
OIL	(kpa)	316.3	316.0	316.9	316.7	316.1	316.5	316.7	316.9	317.4
FUEL	(kpa)	105.8	105.8	105.6	105.6	105.5	105.6	105.5	105.8	105.9

COLD START TEST # -20 DEGREES C

RUN NUMBER		1143	1144	1145	1146	1147	1148	1149	1150	1151
TEST CODE		1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY	(julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME	(military)	105118	105121	105124	105127	105131	105134	105137	105140	105143
PHASE		1	1	1	1	1	1	1	1	1
TYPE FUEL		57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS
ENGINE PARAMETERS										
ENGINE SPEED	(rpm)	25	1	2	3	222	3	4	112	17
TORQUE	(M-K)	19.1	18.4	17.2	19.0	18.3	20.4	18.5	19.1	19.6
POWER	(KW)	0	0	0	0	4	0	0	3	0
SMOKE OPACITY	(%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4
TEMPERATURE PARAMETERS (deg.c)										
COOLANT IN		-19	-19	-19	-19	-19	-17	-16	-16	-16
COOLANT OUT		-17	-17	-17	-17	-17	-17	-17	-17	-17
OIL SUMP		-16	-16	-16	-16	-16	-16	-16	-16	-15
OIL GALLERY		-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR		-19	-19	-19	-19	-19	-18	-18	-18	-18
CELL AMBIENT		-19	-19	-19	-18	-18	-19	-19	-18	-18
BOOST B4 INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER		-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN		-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1		122	119	119	114	114	114	117	123	122
EXHAUST #2		92	94	99	109	112	111	121	130	133
EXHAUST #3		33	34	35	36	37	40	41	38	43
EXHAUST #4		93	94	95	95	93	93	89	89	90
EXHAUST #5		49	51	48	47	41	44	42	39	38
EXHAUST #6		65	64	66	70	72	77	73	72	58
EXHAUST STACK		41	41	41	41	39	40	40	40	41
PRESSURE PARAMETERS										
OIL	(kpa)	318.0	317.8	317.8	318.0	318.1	318.5	319.6	318.7	318.8
FUEL	(kpa)	105.8	105.7	105.7	105.7	105.5	105.9	104.1	105.3	102.7

*** SYNFUEL PROJECT 93-8538 TEST RESULTS ***
COLD START TEST @ -20 DEGREES C

RUN NUMBER	1152	1153	1154	1155	1156	1157	1158	1159	1160
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105146	105149	105152	105155	105158	1052 1	1052 4	1052 7	105210
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	306	19	332	124	55	361	332	355	56
TORQUE (N-M)	19.1	19.2	20.2	18.1	19.9	19.9	20.2	18.3	19.2
POWER (KW)	.6	.0	.7	.2	.1	.8	.7	.7	.1
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-15	-15	-14	-14	-14	-13	-12	-12	-12
COOLANT OUT	-17	-17	-17	-17	-17	-16	-17	-17	-17
OIL SUMP	-15	-15	-15	-15	-15	-15	-15	-15	-15
OIL GALLERY	-17	-17	-17	-17	-17	-17	-17	-17	-17
INTAKE AIR	-18	-18	-18	-18	-18	-18	-18	-18	-18
CELL AMBIENT	-18	-18	-18	-18	-18	-18	-18	-18	-18
BOOST B4 INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	120	118	118	118	115	115	116	116	118
EXHAUST #2	138	144	146	151	150	144	152	156	154
EXHAUST #3	40	44	49	47	53	54	51	59	49
EXHAUST #4	89	85	84	94	87	90	85	85	94
EXHAUST #5	37	40	44	43	45	45	51	52	51
EXHAUST #6	84	69	63	55	51	53	57	54	50
EXHAUST STACK	40	41	42	42	42	42	42	42	42

PRESSURE PARAMETERS

OIL (kpa)	318.9	318.9	319.3	319.2	319.3	319.5	319.7	319.8	319.9
FUEL (kpa)	101.7	102.7	102.2	100.6	102.8	96.5	98.5	101.7	102.4

COLD START TEST @ -20 DEGREES C

RUN NUMBER	1161	1162	1163	1164	1165	1166	1167	1168	1169
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105213	105216	105219	105222	105225	105228	105231	105234	105237
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	21	350	336	375	473	601	671	661	623
TORQUE (N-M)	18.4	28.8	19.4	20.2	23.0	29.5	28.5	24.7	26.8
POWER (KW)	.0	.8	.7	.8	1.1	1.9	2.0	1.6	1.7
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-11	-10	-10	-9	-11	-15	-16	-16	-15
COOLANT OUT	-17	-16	-16	-16	-16	-16	-16	-16	-17
OIL SUMP	-15	-15	-15	-15	-15	-15	-15	-14	-14
OIL GALLERY	-17	-17	-16	-16	-16	-16	-16	-16	-16
INTAKE AIR	-18	-18	-18	-18	-18	-18	-18	-18	-18
CELL AMBIENT	-18	-18	-18	-18	-18	-18	-18	-18	-18
BOOST B4 INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
BOOST AF INNER COOLER	-20	-20	-20	-20	-20	-20	-20	-20	-20
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	119	118	121	118	122	132	146	152	159
EXHAUST #2	161	167	167	167	171	178	180	188	190
EXHAUST #3	52	52	59	57	58	63	71	77	78
EXHAUST #4	98	100	95	99	105	114	127	137	142
EXHAUST #5	48	43	42	50	53	75	83	85	93
EXHAUST #6	45	48	42	45	52	71	92	72	78
EXHAUST STACK	42	43	44	44	44	54	62	66	71

PRESSURE PARAMETERS

OIL (kpa)	319.9	320.2	320.4	320.9	322.9	327.5	331.5	333.7	336.3
FUEL (kpa)	99.5	96.2	100.9	87.2	87.2	46.0	58.9	82.6	105.9

*** SYMFUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST B -20 DEGREES C

RUN NUMBER	1170	1171	1172	1173	1174	1175	1176	1177	1178
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105240	105243	105246	105249	105251	105254	105257	1053 0	1053 3
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	649	638	693	741	731	778	820	873	894
TORQUE (N-M)	26.7	25.8	28.4	31.3	29.9	31.2	33.7	32.1	31.4
POWER (KW)	1.8	1.8	2.1	2.4	2.3	2.5	2.6	2.9	2.9
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-14	-13	-9	-9	-9	-10	-9	-8	-7
COOLANT OUT	-17	-16	-16	-16	-16	-16	-16	-16	-15
OIL SUMP	-14	-14	-13	-13	-13	-13	-12	-12	-12
OIL GALLERY	-16	-16	-16	-16	-16	-16	-16	-15	-15
INTAKE AIR	-18	-18	-18	-18	-18	-17	-17	-17	-17
CELL AMBIENT	-18	-18	-18	-18	-17	-17	-18	-17	-17
BOOST B4 INNER COOLER	-20	-20	-19	-19	-19	-19	-19	-19	-19
BOOST AF INNER COOLER	-20	-20	-20	-20	-19	-19	-19	-19	-18
FUEL IN	-20	-20	-20	-20	-20	-20	-20	-20	-20
EXHAUST #1	162	172	172	177	185	182	186	194	201
EXHAUST #2	185	180	178	181	183	188	187	193	198
EXHAUST #3	85	79	79	80	82	94	92	87	82
EXHAUST #4	147	150	161	164	170	180	181	179	184
EXHAUST #5	89	95	103	115	118	127	126	136	148
EXHAUST #6	36	34	37	32	65	56	54	53	56
EXHAUST STACK	76	80	84	89	93	98	100	104	108

PRESSURE PARAMETERS									
OIL (kpa)	338.6	340.3	342.0	343.9	345.4	347.0	348.4	349.9	351.4
FUEL (kpa)	123.3	125.4	121.4	139.9	119.1	81.7	55.6	33.6	15.4

COLD START TEST B -20 DEGREES C

RUN NUMBER	1179	1180	1181	1182	1183	1184	1185	1186	1187
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	1053 6	1053 9	105312	105315	105318	105321	105324	105327	105330
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	875	910	971	965	997	927	922	913	889
TORQUE (N-M)	31.1	30.0	33.6	36.3	37.1	34.2	31.8	32.3	31.0
POWER (KW)	2.6	2.9	3.4	3.7	3.9	3.3	3.1	3.1	2.9
SMOKE OPACITY (%)	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-6	-5	-8	-7	-9	-7	-11	-11	-13
COOLANT OUT	-15	-15	-15	-15	-14	-14	-14	-14	-13
OIL SUMP	-12	-12	-11	-11	-11	-11	-10	-10	-10
OIL GALLERY	-15	-15	-15	-15	-15	-15	-15	-14	-14
INTAKE AIR	-17	-17	-17	-17	-17	-17	-17	-17	-17
CELL AMBIENT	-18	-18	-17	-17	-18	-17	-17	-17	-17
BOOST B4 INNER COOLER	-19	-18	-18	-18	-18	-17	-17	-17	-17
BOOST AF INNER COOLER	-18	-18	-17	-17	-16	-16	-15	-15	-14
FUEL IN	-19	-19	-18	-18	-18	-18	-19	-19	-19
EXHAUST #1	203	203	214	212	210	213	222	220	218
EXHAUST #2	202	205	210	223	231	241	269	268	265
EXHAUST #3	85	74	76	78	88	85	86	84	71
EXHAUST #4	190	192	199	202	197	208	208	208	213
EXHAUST #5	159	160	165	168	171	149	119	119	121
EXHAUST #6	42	37	31	40	38	28	21	16	13
EXHAUST STACK	111	112	116	119	122	123	125	126	125

PRESSURE PARAMETERS									
OIL (kpa)	352.6	353.5	354.5	355.5	356.5	356.5	356.0	355.5	354.6
FUEL (kpa)	3.5	-6.1	-12.6	-17.7	-19.0	-19.1	-19.1	-19.6	-19.5

*** SYNFUEL PROJECT 03-9538 TEST RESULTS ***
 COLD START TEST # -23 DEGREES C

RUN NUMBER	1188	1189	1190	1191	1192	1193	1194	1195	1196
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105333	105336	105339	105342	105345	105348	105351	105354	105357
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	918	852	725	712	661	634	600	420	1
TORQUE (N-M)	30.9	30.5	26.6	29.9	29.2	26.1	24.2	20.7	15.3
POWER (KW)	3.0	2.7	2.0	2.2	2.0	1.7	1.5	1.0	0.9
SMOKE OPACITY (%)	100.4	100.4	100.4	100.3	99.1	98.4	97.5	80.1	61.9

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	-10	-14	-9	-8	-3	-2	-0	-1	1
COOLANT OUT	-13	-13	-13	-12	-12	-12	-11	-11	-10
OIL SUMP	-9	-9	-9	-9	-8	-8	-8	-8	-8
OIL GALLERY	-14	-14	-14	-13	-13	-13	-13	-13	-12
INTAKE AIR	-17	-16	-16	-16	-16	-16	-16	-16	-16
CELL AMBIENT	-17	-17	-17	-17	-17	-16	-16	-16	-16
BOOST B4 INNER COOLER	-17	-16	-16	-16	-16	-16	-16	-16	-16
BOOST AF INNER COOLER	-14	-14	-13	-13	-13	-13	-13	-12	-12
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	219	229	231	238	241	241	242	250	252
EXHAUST #2	260	263	268	273	291	302	313	294	258
EXHAUST #3	79	79	81	86	89	89	77	67	61
EXHAUST #4	205	204	162	129	104	86	72	62	55
EXHAUST #5	114	99	80	67	56	47	40	35	32
EXHAUST #6	11	9	7	5	3	2	1	-8	-1
EXHAUST STACK	124	125	120	118	118	115	113	109	104

PRESSURE PARAMETERS

OIL (hpa)	353.7	352.7	350.9	349.8	346.7	344.6	342.3	339.1	334.7
FUEL (kpa)	-19.8	-19.2	-18.0	-16.4	-15.3	-14.3	-13.3	-11.7	-10.7

COLD START TEST # -20 DEGREES C

RUN NUMBER	1197	1198	1199	1200	1201	1202	1203	1204	1205
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	1054 0	1054 3	1054 6	1054 9	105412	105415	105418	105420	105423
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS

ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (N-M)	7.7	-2.3	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7
POWER (KW)	-0	0	0	0	0	0	0	0	0
SMOKE OPACITY (%)	21.7	6.8	3.6	2.8	1.9	1.7	1.6	1.7	1.2

TEMPERATURE PARAMETERS (deg.c)

COOLANT IN	1	1	1	1	1	1	1	1	0
COOLANT OUT	-8	-4	-3	-4	-4	-5	-5	-5	-5
OIL SUMP	-8	-8	-8	-8	-8	-8	-8	-8	-8
OIL GALLERY	-12	-12	-12	-12	-11	-12	-12	-12	-12
INTAKE AIR	-16	-16	-16	-16	-16	-16	-16	-16	-16
CELL AMBIENT	-16	-16	-16	-16	-16	-16	-16	-16	-16
BOOST B4 INNER COOLER	-16	-17	-17	-17	-17	-17	-17	-17	-17
BOOST AF INNER COOLER	-12	-12	-13	-13	-13	-13	-13	-14	-14
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-19	-19
EXHAUST #1	245	236	227	219	211	204	197	190	184
EXHAUST #2	238	231	224	217	210	204	197	191	186
EXHAUST #3	59	58	58	57	56	55	54	53	52
EXHAUST #4	52	52	52	52	52	51	51	50	50
EXHAUST #5	30	31	30	30	30	30	30	30	29
EXHAUST #6	-1	-1	-1	-1	-1	-1	-1	-1	-1
EXHAUST STACK	100	98	96	95	93	91	90	89	87

PRESSURE PARAMETERS

OIL (hpa)	322.7	299.1	276.4	256.1	239.8	223.3	209.5	197.3	186.3
FUEL (kpa)	-10.3	-10.0	-9.9	-9.8	-9.7	-9.7	-9.7	-9.6	-9.5

*** SYN FUEL PROJECT 03-8538 TEST RESULTS ***
 COLD START TEST # -20 DEGREES C

RUN NUMBER	1206	1207	1208	1209	1210	1211	1212	1213	1214
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105426	105429	105432	105435	105438	105441	105444	105447	105450
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (H-H)	-2.7	-2.7	-2.7	-2.8	-2.7	-2.7	-2.7	-2.7	-2.6
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	1.4	1.1	1.1	.9	.9	.8	1.0	.9	.8

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	0	0	0	0	0	-0	-0	-0	-0
COOLANT OUT	-5	-5	-5	-5	-5	-5	-5	-4	-4
OIL SUMP	-8	-8	-9	-9	-9	-9	-9	-9	-9
OIL GALLERY	-12	-12	-12	-13	-13	-13	-14	-14	-14
INTAKE AIR	-16	-16	-16	-16	-16	-16	-16	-16	-16
CELL AMBIENT	-16	-16	-16	-16	-16	-16	-16	-16	-16
BOOST BA INNER COOLER	-17	-17	-17	-17	-17	-17	-17	-17	-17
BOOST AF INNER COOLER	-14	-14	-14	-14	-14	-14	-14	-14	-14
FUEL IN	-19	-19	-19	-19	-19	-19	-19	-18	-18
EXHAUST #1	178	172	167	161	156	151	147	142	138
EXHAUST #2	180	175	169	164	160	155	150	146	142
EXHAUST #3	51	50	50	49	48	47	46	45	45
EXHAUST #4	49	49	48	49	47	47	46	46	45
EXHAUST #5	29	29	29	28	28	28	28	27	27
EXHAUST #6	-1	-0	-0	-0	-0	-0	-0	-0	-0
EXHAUST STACK	86	84	83	81	80	79	77	76	75

PRESSURE PARAMETERS									
OIL (kpa)	176.4	167.5	159.3	151.8	144.8	138.5	132.6	127.1	122.1
FUEL (kpa)	-9.5	-9.5	-9.5	-9.5	-9.4	-9.4	-9.4	-9.4	-9.4

COLD START TEST # -20 DEGREES C

RUN NUMBER	1215	1216	1217	1218	1219	1220	1221	1222	1223
TEST CODE	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2	1611 2
DAY (julian)	6028	6028	6028	6028	6028	6028	6028	6028	6028
TIME (military)	105453	105456	105459	1055 2	1055 5	1055 8	105511	105514	105517
PHASE	1	1	1	1	1	1	1	1	1
TYPE FUEL	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS	57XEDS

ENGINE PARAMETERS									
ENGINE SPEED (rpm)	-0	-0	-0	-0	-0	-0	-0	-0	-0
TORQUE (H-H)	-2.7	-2.7	-2.8	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7
POWER (KW)	.0	.0	.0	.0	.0	.0	.0	.0	.0
SMOKE OPACITY (Z)	.8	.7	.7	.6	.6	.7	.6	.6	.5

TEMPERATURE PARAMETERS (deg.c)									
COOLANT IN	-0	-0	-1	-1	-1	-1	-1	-1	-1
COOLANT OUT	-4	-4	-4	-4	-4	-4	-4	-4	-4
OIL SUMP	-9	-9	-9	-9	-9	-10	-10	-10	-10
OIL GALLERY	-15	-15	-15	-15	-16	-16	-16	-16	-16
INTAKE AIR	-16	-16	-16	-16	-16	-16	-16	-16	-16
CELL AMBIENT	-16	-16	-16	-16	-16	-15	-15	-15	-15
BOOST BA INNER COOLER	-17	-17	-17	-17	-17	-17	-17	-17	-17
BOOST AF INNER COOLER	-15	-15	-15	-15	-15	-15	-15	-15	-15
FUEL IN	-18	-18	-18	-18	-18	-18	-18	-18	-18
EXHAUST #1	134	130	126	122	119	115	112	109	106
EXHAUST #2	138	134	130	127	123	120	117	114	111
EXHAUST #3	44	43	43	42	42	41	40	40	39
EXHAUST #4	44	44	43	43	42	42	41	40	40
EXHAUST #5	27	26	26	26	26	25	25	25	24
EXHAUST #6	-1	-0	-0	-0	-0	-0	-0	-0	-1
EXHAUST STACK	74	73	72	70	69	68	67	66	65

PRESSURE PARAMETERS									
OIL (kpa)	117.4	113.1	109.0	105.2	101.6	98.2	95.0	92.0	89.1
FUEL (kpa)	-9.3	-9.3	-9.3	-9.3	-9.2	-9.3	-9.2	-9.2	-9.2

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APPENDIX H
HEAT RELEASE RATE DIAGRAMS AND CUMULATIVE HEAT RELEASE CURVES
FOR THE SHALE, TAR SANDS, 57 PERCENT EDS AND
BASELINE CONTROL D-2 AT EACH SPEED/LOAD CONDITION











































































































