

Populations, Activity and Emissions of Diesel Nonroad Equipment in EPA Region 7

Phase 3 SEMTECH Daily Span Results Appendix S

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

Prepared for EPA by
Eastern Research Group, Inc. (ERG)
EPA Contract No. EP-C-06-080

Test	8925_2466 (a) & (b)	0229-3781	0229-0045
Date	7/23/2008	7/31/2008	8/1/2008
CO drift		0.73%	-1.67%
CO2 drift		-0.63%	-0.35%
NO drift		-0.50%	-1.32%
THC drift		-2.47%	-1.35%
NO2 drift		3.94%	2.13%
Test Comments	NDIR bench and gen died 1 hour into am test and 1 hour into PM test	About 1 hr of testing	short test

Test	9960-6086 (a) - (c)	9960-5674 (a) & (b)	8391-3333_1 (a) & (b)
Date	8/5/2008	8/6/2008	8/12/2008
CO drift	-6.96%	1.19%	1.95%
CO2 drift	0.16%	-2.12%	-0.26%
NO drift	-1.95%	-0.59%	-2.10%
THC drift	-0.14%	0.45%	-1.60%
NO2 drift	-2.80%	1.02%	0.71%
Test Comments			

Test	8391-3333_2	8418_0097_1
Date	8/13/2008	8/18/2008
CO drift	-2.95%	
CO2 drift	0.99%	
NO drift	-0.74%	
THC drift	-2.38%	
NO2 drift	1.56%	
Test Comments		PEMS died 30 minutes into test

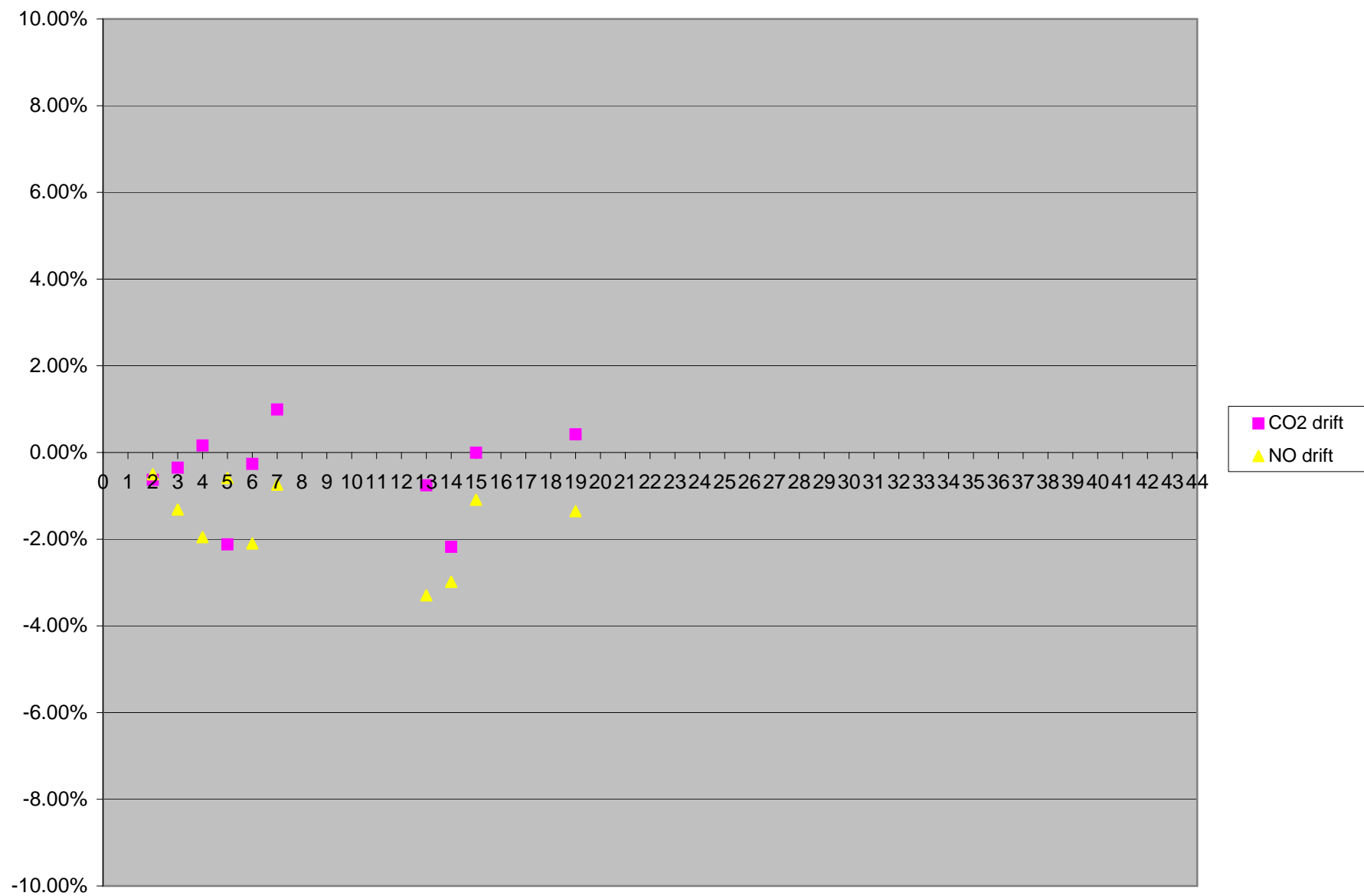
Test	8418_0097_2	8418_0377_1	8418_0961
Date	8/19/2008	8/22/2008	8/25/2008
CO drift			
CO2 drift			
NO drift			
THC drift			
NO2 drift			
Test Comments	No post-test span was performed	PEMS died about 10 mins into test	No post-test span was performed

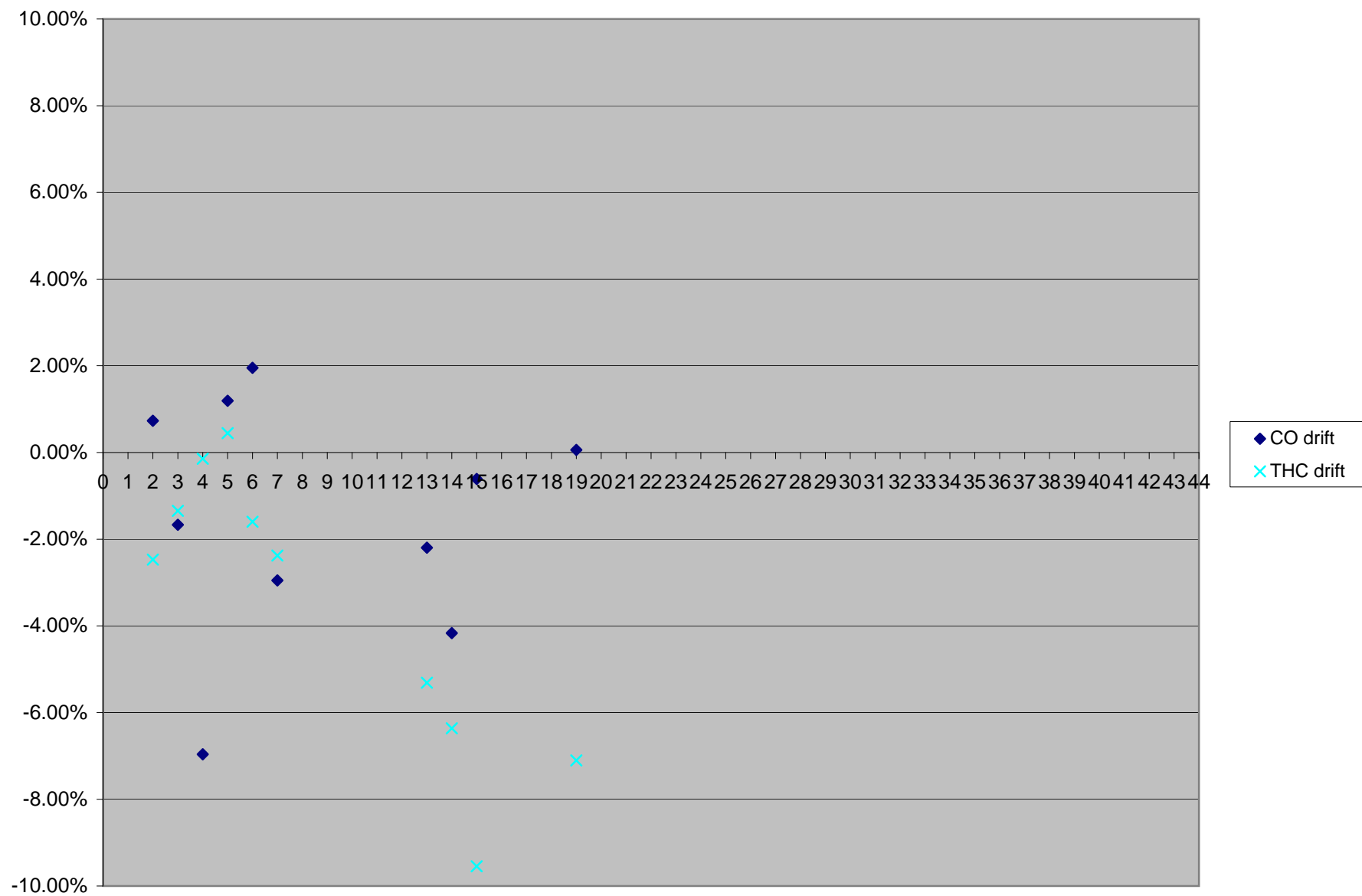
Test	8418_0377_2	0349-1836	0349-2422
Date	8/26/2008	9/23/2008	9/24/2008
CO drift		-2.20%	-4.17%
CO2 drift		-0.76%	-2.18%
NO drift		-3.29%	-2.99%
THC drift		-5.31%	-6.36%
NO2 drift		-2.22%	-3.45%
Test Comments	Turned off FID right shortly after test began - no test data	Reboot after test started	Testing from 3-4:45 PM

Test	9272_3481 (a) & (b)	9272-2494_1	9272-2494_2(a) & (b)
Date	9/30/2008	10/1/2008	10/2/2008
CO drift	-0.61%		
CO2 drift	-0.01%		
NO drift	-1.09%		
THC drift	-9.54%		
NO2 drift	0.47%		
Test Comments		PEMS died 15 minutes into test	Gen died at 8:30, then tested til noon (next session) - No post test spans were performed

Test	9272_0853 (a) & (b)	0062-0748 (a) & (b)
Date	10/6/2008	10/9/2008
CO drift		0.06%
CO2 drift		0.42%
NO drift		-1.35%
THC drift		-7.10%
NO2 drift		0.72%
Test Comments	No post-test span was performed	No reported testing issues

Test	0062-6092 (a) & (b)
Date	10/10/2008
CO drift	
CO2 drift	
NO drift	
THC drift	
NO2 drift	
Test Comments	No NDIR in am - No post-test span





Session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 7/23/2008

Time 6:32:38

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.009	0.011267	-0.002267
CO2(%)	-0.113125	-0.002	-0.111125
NO(ppm)	3.21875	1.773333	1.445417
NO2(ppm)	37.525	-0.193333	37.71833
THC(ppmC)	-10.2875	-1.506667	-8.780833

Span

InfoVer 1

Date 7/23/2008

Time 6:39:09

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.12	12	20.9	2004	1500	505	0	322

Gas	Previous	Current	Difference
CO(%)	0.130562	0.1288	0.001763
CO2(%)	11.63688	11.94133	-0.304458
NO(ppm)	1530.538	1498.233	32.30417
THC(ppmC)	303.4729	319.3578	-15.88486

Audit

Date 7/23/2008

Time 6:51:20

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	301	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	0	0

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.004667	0.009663	Failed
CO2(%)	6	0.139333	0.539636	Failed

O2(%)	0	2	4.140393	Not Selected
HC(ppmC3	0	100	207.0197	Not Selected
NO(ppm)	301	0.98	2.028793	Failed
NO2(ppm)	0	20	41.40393	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	-0.122222	0.253442	Failed

Audit

Date 7/23/2008

Time 6:53:10

Audit Durat 30

Idle Duratic 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC:	0	8	3
NO (ppm)	301	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC	31	0	0

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.031733	0.007611	Failed
CO2(%)	6	4.764667	2.473355	Failed
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	301	220.6933	123.1083	Failed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	21.33778	11.91879	Failed

Zero

InfoVer 1

Date 7/23/2008

Time 6:54:15

Purge Dela 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.016813	0.003333	0.013479
CO2(%)	0.009375	0.001333	0.008042
NO(ppm)	3.35	-0.06	3.41
NO2(ppm)	-14.6	-0.253333	-14.34667

Audit

Date 7/23/2008

Time 6:55:49

Audit Durat 30

Idle Duration	15
Audit Path	Span
Idle Path	Ambient Air
Gas	Bottle Tol %Tol
CO (%)	0.02 0.005 3
CO2 (%)	6 0.2 3
O2 (%)	0 0.5 3
HC (ppmC)	0 8 3
NO (ppm)	301 15 3
NO2 (ppm)	0 12 3
CH4 (ppm)	0 0 0
THC (ppmC)	31 5 2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.021	0.000926	Passed
CO2(%)	6	5.947333	0.016242	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC)	0	500	0	Not Selected
NO(ppm)	301	294.7533	1.272156	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31	28.32	0.016903	Passed

Span										
InfoVer	1									
Date	7/23/2008									
Time	6:57:17									
Purge Delay	30									
Gas Path	Ambient Air									
	CO	CO2	O2	HC	NO	NO2	CH4	THC		
Bottle Value	0.12	12	20.9	2004	1500	505	0	322		
Gas	Previous	Current	Difference							
O2(%)	20.2	20.9	-0.7							

Span										
InfoVer	1									
Date	7/23/2008									
Time	6:59:50									
Purge Delay	30									
Gas Path	Span									
	CO	CO2	O2	HC	NO	NO2	CH4	THC		
Bottle Value	0.12	12	20.9	2004	1500	504	0	322		
Gas	Previous	Current	Difference							
NO2(ppm)	421.6125	494.9933	-73.38083							

Audit	
Date	7/23/2008
Time	7:02:15
Audit Duration	30

Idle Duratic 15
 Audit Path Span
 Idle Path Ambient Air
 Gas Bottle Tol %Tol
 CO (%) 0.02 0.005 3
 CO2 (%) 6 0.2 3
 O2 (%) 0 0.5 3
 HC (ppmC: 0 8 3
 NO (ppm) 301 15 3
 NO2 (ppm) 102 12 3
 CH4 (ppm) 0 0 0
 THC (ppmC 31 5 2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.1	0	Not Selected
CO2(%)	6	1	0	Not Selected
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	301	500	0	Not Selected
NO2(ppm)	102	70.82	1.073845	Failed
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	0	0	Not Selected

Audit
 Date 7/23/2008
 Time 7:03:27
 Audit Durat 30
 Idle Duratic 15

Audit Path Span
 Idle Path Ambient Air
 Gas Bottle Tol %Tol
 CO (%) 0.02 0.005 3
 CO2 (%) 6 0.2 3
 O2 (%) 0 0.5 3
 HC (ppmC: 0 8 3
 NO (ppm) 301 15 3
 NO2 (ppm) 102 12 3
 CH4 (ppm) 0 0 0
 THC (ppmC 31 5 2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.1	0	Not Selected
CO2(%)	6	1	0	Not Selected
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	301	500	0	Not Selected
NO2(ppm)	102	72.14667	1.36741	Failed
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	0	0	Not Selected

Zero

InfoVer 1
 Date 7/23/2008
 Time 7:04:54
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	1.3625	-0.073333	1.435833
NO2(ppm)	-5.15	-0.066667	-5.083333

Audit
 Date 7/23/2008
 Time 7:06:17
 Audit Duration 30
 Idle Duration 15
 Audit Path Span
 Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	301	15	3
NO2 (ppm)	102	15	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	5	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.1		0 Not Selected
CO2(%)	6	1		0 Not Selected
O2(%)	0	10		0 Not Selected
HC(ppmC)	0	500		0 Not Selected
NO(ppm)	301	500		0 Not Selected
NO2(ppm)	102	76.79333	1.706905	Failed
CH4(ppm)	0	0		0 Not Selected
THC(ppmC)	31	0		0 Not Selected

Span

InfoVer 1
 Date 7/23/2008
 Time 7:10:44
 Purge Delay 30
 Gas Path Span

CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.12	12	20.9	2004	1500	504	0 322

Gas	Previous	Current	Difference
NO2(ppm)	498.2313	504.5867	-6.355417

session (b)
 Zero

InfoVer 1
Date 7/23/2008
Time 11:41:37
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	-0.002938	-0.0004	-0.002537
CO2(%)	-0.010625	0	-0.010625
NO(ppm)	-7.65	1.96	-9.61
NO2(ppm)	-6.7625	1.133333	-7.895833
THC(ppmC)	-3.13125	-0.24	-2.89125

Zero
InfoVer 1
Date 7/23/2008
Time 12:12:49
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0	0	0
CO2(%)	0	0	0
NO(ppm)	0	0	0
NO2(ppm)	0	0	0

Zero
InfoVer 1
Date 7/23/2008
Time 12:14:35
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.012687	0.000533	0.012154
CO2(%)	0	0	0
NO(ppm)	5.31875	0.066667	5.252083
NO2(ppm)	5.9	0	5.9

no afternoon post span

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 7/31/2008
Time 10:41:59
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.000438	-0.0008	0.001238
CO2(%)	0	0	0
NO(ppm)	-1.0125	0.346667	-1.359167
NO2(ppm)	-16.81875	-3.76	-13.05875
THC(ppmC)	-3.81875	-0.513333	-3.305417

Span

InfoVer 1
Date 7/31/2008
Time 10:51:50
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.12	12	20.9	2004	1520	504	0	322

Gas	Previous	Current	Difference
CO(%)	0.114	0.119067	-0.005067
CO2(%)	12.08875	11.97333	0.115417
NO(ppm)	1491	1522.34	-31.34
THC(ppmC)	288.9042	319.28	-30.37583

Audit

Date 7/31/2008
Time 10:56:13
Audit Duration 30
Idle Duration 15
Audit Path Span
Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	306	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	0	0

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.016067	0.000258	Passed
CO2(%)	6	5.973333	0.006172	Passed

O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	306	304.8667	0.746101	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	29.39556	0.033014	Failed

Audit

Date 7/31/2008

Time 10:58:02

Audit Durat 30

Idle Duratic 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
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CO (%)	0.02	0.005	3
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CO2 (%)	6	0.2	3
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O2 (%)	0	0.5	3
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HC (ppmC:	0	8	3
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NO (ppm)	306	15	3
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NO2 (ppm)	0	12	3
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CH4 (ppm)	0	0	0
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THC (ppmC	31	6	3
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Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.021667	0.000488	Passed
CO2(%)	6	5.965333	0.008338	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	306	304.6067	1.250981	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	29.15111	0.017213	Passed

Span

InfoVer 1

Date 7/31/2008

Time 11:01:17

Purge Dela 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Valu	0.12	12	20.9	2004	1520	504	0	322

Gas	Previous	Current	Difference
NO2(ppm)	473.325	506.7133	-33.38833

Zero

InfoVer 1

Date 7/31/2008

Time 11:27:21

Purge Dela 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	3.01875	0	3.01875
NO2(ppm)	-25.4375	-0.053333	-25.38417

Zero

InfoVer 1
Date 7/31/2008
Time 13:22:01
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.007687	-0.002	0.009687
CO2(%)	0.02	-0.005333	0.025333
NO(ppm)	-2.25625	2.653333	-4.909583
NO2(ppm)	-5.3875	-1.64	-3.7475
THC(ppmC)	19.34375	-0.046667	19.39042

Span

InfoVer 1
Date 7/31/2008
Time 13:37:35
Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.12	12	20.9	2004	1520	504	0	322

Gas	Previous	Current	Difference
CO(%)	0.125312	0.1244	0.000912
CO2(%)	11.94938	12.02533	-0.075958
NO(ppm)	1516.044	1523.727	-7.682917
THC(ppmC)	317.225	325.2644	-8.039444

Span

InfoVer 1
Date 7/31/2008
Time 13:42:01
Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.12	12	20.9	2004	1520	504	0	322

Gas	Previous	Current	Difference
NO2(ppm)	525.0438	505.1333	19.91042

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/1/2008
Time 11:13:12
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-13.125	-2	-11.125
CO2(%)	0	-0.004	0.004
NO(ppm)	1.5	-0.2	1.7
NO2(ppm)	-3.225	-1.726667	-1.498333
THC(ppmC)	0.6125	1.093333	-0.480833

Span

InfoVer 1
Date 8/1/2008
Time 11:16:39
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	1200	12	20.9	2004	1520	504	0	322

Gas	Previous	Current	Difference
CO(ppm)	1210	1190	20
CO2(%)	12.01875	11.974	0.04475
NO(ppm)	1512.131	1520.413	-8.282083
THC(ppmC)	317.0354	319.5644	-2.529028

Audit

Date 8/1/2008
Time 11:21:33
Audit Duration 30
Idle Duration 15
Audit Path Span
Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (ppm)	200	50	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	306	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	6	3

Gas	Bottle	Mean Value	Std Dev	Result
CO(ppm)	200	174	5.070926	Passed
CO2(%)	6	5.98	NaN	Passed

O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected
NO(ppm)	306	301.9267	0.786917	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	31.49111	0.064816	Passed

Span											
InfoVer	1										
Date	8/1/2008										
Time	11:23:51										
Purge Dela	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	1200		12	20.9	2004	1520	504	0	322		
Gas Previous Current Difference											
NO2(ppm)	494.55	505.9867	-11.43667								

Zero

InfoVer	1
Date	8/1/2008
Time	11:31:57
Purge Dela	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	1.8125	-0.5	2.3125
NO2(ppm)	-16.44375	-0.153333	-16.29042

Zero

InfoVer	1
Date	8/1/2008
Time	12:46:02
Purge Dela	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	71.25	7.333333	63.91667
CO2(%)	0.03	-0.012667	0.042667
NO(ppm)	1.6625	0.606667	1.055833
NO2(ppm)	-32	-1.3	-30.7
THC(ppmC	11.98125	1.406667	10.57458

Span								
InfoVer	1							
Date	8/1/2008							
Time	12:49:26							
Purge Dela	30							
Gas Path	Span							
	CO	CO2	O2	HC	NO	NO2	CH4	THC

Bottle Valu	1200	12	20.9	2004	1520	504	0	322
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Gas	Previous	Current	Difference	
CO(ppm)	1180	1200	-20	-1.67%
CO2(%)	11.95063	11.99267	-0.042042	-0.35%
NO(ppm)	1505.644	1525.76	-20.11625	-1.32%
THC(ppmC)	318.9979	323.3511	-4.353194	-1.35%

Span

InfoVer 1

Date 8/1/2008

Time 12:54:49

Purge Dela 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
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Bottle Valu	1200	12	20.9	2004	1520	504	0	322
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Gas	Previous	Current	Difference	
NO2(ppm)	517.2563	506.4867	10.76958	2.13%

Session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 8/5/2008

Time 5:31:47

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-2.5	10	-12.5
CO2(%)	-0.12	0	-0.12
NO(ppm)	4.0875	-0.626667	4.714167
NO2(ppm)	-21	-0.086667	-20.91333
THC(ppmC)	2.21875	0.32	1.89875

Span

InfoVer 1

Date 8/5/2008

Time 5:40:46

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	80000	12	20.9	2004	3006	504	0	323

Gas	Previous	Current	Difference
CO(ppm)	80220	79943.33	276.6667
CO2(%)	12.06438	12.00467	0.059708
NO(ppm)	2938.2	3014.467	-76.26667
THC(ppmC)	385.7813	385.7644	0.016806

Span

InfoVer 1

Verify Only

Date 8/5/2008

Time 5:50:59

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1200	12	20.9	2004	3006	504	0	322

Gas	Previous	Current	Difference
CO(ppm)	0	0	0
CO2(%)	0	0	0
NO(ppm)	0	0	0
THC(ppmC)	0	0	0

Span

InfoVer 1

Verify Only

Date 8/5/2008

Time	5:52:49									
Purge Delay	30									
Gas Path	Span									
	CO	CO2	O2	HC	NO	NO2	CH4	THC		
Bottle Values	1200		12	20.9	2004	1502	504	0	322	
Gas	Previous	Current	Difference							
CO(ppm)	1154		0	1154						
CO2(%)	12.021		0	12.021						
NO(ppm)	1553.15		0	1553.15						
THC(ppmC)	294.1167		0	294.1167						

Span										
InfoVer	1									
Date	8/5/2008									
Time	5:53:46									
Purge Delay	30									
Gas Path	Span									
	CO	CO2	O2	HC	NO	NO2	CH4	THC		
Bottle Values	1200		12	20.9	2004	1502	504	0	322	
Gas	Previous	Current	Difference							
CO(ppm)	1152.5	1200	-47.5							
CO2(%)	12.0075	11.98467	0.022833							
NO(ppm)	1554.363	1503.567	50.79583							
THC(ppmC)	293.6313	320.1467	-26.51542							

Audit				
Date	8/5/2008			
Time	6:08:17			
Audit Duration	30			
Idle Duration	15			
Audit Path	Span			
Idle Path	Ambient Air			
Gas	Bottle	Tol	%Tol	
CO (ppm)	200	50	3	
CO2 (%)	6	0.2	3	
O2 (%)	0	0.5	3	
HC (ppmC3)	0	8	3	
NO (ppm)	306	15	3	
NO2 (ppm)	0	12	3	
CH4 (ppm)	0	0	0	
THC (ppmC3)	31	6	3	

Gas	Bottle	Mean Value	Std Dev	Result
CO(ppm)	200	190	0	Passed
CO2(%)	6	5.986667	0.007237	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected
NO(ppm)	306	300.0133	0.559166	Passed
NO2(ppm)	0	100	0	Not Selected

CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31	31.37333	0.044006	Passed

Zero

InfoVer	1
Date	8/5/2008
Time	6:10:02
Purge Delay	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	40	-5.333333	45.33333
CO2(%)	0.03	-0.002667	0.032667
NO(ppm)	4.3125	0.9	3.4125
NO2(ppm)	5.11875	-0.4	5.51875
THC(ppmC)	5.8125	-0.26	6.0725

Zero

InfoVer	1
Date	8/5/2008
Time	8:10:09
Purge Delay	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	80	10	70
CO2(%)	-0.013125	0.01	-0.023125
NO(ppm)	-2.18125	1.98	-4.16125
NO2(ppm)	-5.4	-2.22	-3.18
THC(ppmC)	17.59375	0.38	17.21375

Session (b)

Audit/Span/Zero Information:

Zero

InfoVer	1
Date	8/5/2008
Time	8:45:54
Purge Delay	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	18.125	-24	42.125
CO2(%)	0.029375	-0.019333	0.048708
NO(ppm)	1.15	1.506667	-0.356667
NO2(ppm)	2.08125	-0.9	2.98125
THC(ppmC)	1.6375	-1.693333	3.330833

Zero

InfoVer 1
Date 8/5/2008
Time 12:38:35
Purge Delay 30
Gas Path Sample

Gas	Previous	Current	Difference
CO(ppm)	262.5	-24	286.5
CO2(%)	2.38	0.003333	2.376667
NO(ppm)	167.85	0.266667	167.5833
NO2(ppm)	76.68125	-0.133333	76.81458
THC(ppmC)	500.4188	502.1333	-1.714583

Zero
InfoVer 1
Date 8/5/2008
Time 12:42:37
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-40.625	-10	-30.625
CO2(%)	-2.7675	-0.02	-2.7475
NO(ppm)	-32	2.913333	-34.91333
NO2(ppm)	-32	-0.3	-31.7
THC(ppmC)	4.625	-2	6.625

Session (c)

Audit/Span/Zero Information:

Span

InfoVer 1
Date 8/5/2008
Time 13:14:16
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206	12	20.9	2004	1505	504	0	331.7

Gas	Previous	Current	Difference
CO(ppm)	1142.5	1228	-85.5
CO2(%)	12.00875	11.98933	0.019417
NO(ppm)	1474.106	1503.467	-29.36042
THC(ppmC)	330.9125	331.3889	-0.476389

Span

InfoVer 1
Date 8/5/2008
Time 13:17:23
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206	12	20.9	2004	1505	504	0	331.7
Gas	Previous	Current	Difference					
THC(ppmC)	322.8917	332.2067	-9.315			-2.80%		

Zero
 InfoVer 1
 Verify Only
 Date 8/5/2008
 Time 13:20:53
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-13.33333	-13.33333	0
CO2(%)	-0.04	-0.04	0
NO(ppm)	5.286667	5.286667	0
NO2(ppm)	-0.713333	-0.713333	0

Zero
 InfoVer 1
 Verify Only
 Date 8/5/2008
 Time 13:22:02
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
THC(ppmC)	-10.11333	-10.11333	0

Zero
 InfoVer 1
 Date 8/5/2008
 Time 15:41:33
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	50	0	50
CO2(%)	-0.02125	0	-0.02125
NO(ppm)	-0.14375	0.84	-0.98375
NO2(ppm)	2.55625	-0.4	2.95625
THC(ppmC)	4.575	0.14	4.435

oops, looks like they ran zero gas

6:27:57 AM

Gas	Previous	Current	Difference
CO(ppm)	1194.375	1264.667	-70.29167
CO2(%)	12.05	11.98067	0.069333
NO(ppm)	1491.531	1515.7	-24.16875
THC(ppmC)	327.9375	335.3911	-7.453611

C Ensfield provided se

session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 8/6/2008

Time 9:26:45

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-38.75	-31.33333	-7.416667
CO2(%)	0.068125	-0.09	0.158125
NO(ppm)	4.59375	1.453333	3.140417
NO2(ppm)	-32	-2.46	-29.54
THC(ppmC)	-4.74375	-2.5	-2.24375

Session (b)

Post-span data...

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 8/6/2008

Time 9:49:51

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	4.85625	0.08	4.77625
NO2(ppm)	-7.69375	0.106667	-7.800417

Span
 InfoVer 1
 Date 8/6/2008
 Time 9:57:22
 Purge Delay 30
 Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206		12	20.9	2004	1505	504	0 331.7

Gas	Previous	Current	Difference
CO(ppm)	1283.125	1268	15.125
CO2(%)	11.745	11.99933	-0.254333
NO(ppm)	1498.363	1507.22	-8.8575
THC(ppmC)	334.0688	332.5822	1.486528

Span
 InfoVer 1
 Date 8/6/2008
 Time 10:03:16
 Purge Delay 30
 Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206		12	20.9	2004	1505	504	0 331.7

Gas	Previous	Current	Difference
NO2(ppm)	511.6563	506.5	5.15625

Zero
 InfoVer 1
 Date 8/6/2008
 Time 10:07:36
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
NO2(ppm)	32.25	-0.02	32.27

Zero
 InfoVer 1
 Date 8/6/2008
 Time 16:08:50
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	524.375	8	516.375
CO2(%)	6.088125	-5.568	11.65613
NO(ppm)	436.4188	1.72	434.6988
NO2(ppm)	-1.50625	2.833333	-4.339583
THC(ppmC)	0.65625	-0.54	1.19625

parately (not in xml or csv)

(a) & (b)

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/12/2008
Time 6:06:16
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	40	0	40
CO2(%)	-0.06	0	-0.06
NO(ppm)	-10.70625	1.2	-11.90625
NO2(ppm)	14.61875	0.033333	14.58542
THC(ppmC)	-15.5	-1.206667	-14.29333

Span

InfoVer 1
Date 8/12/2008
Time 6:15:20
Purge Delay 30

Gas Path	Span	CO	CO2	O2	HC	NO	NO2	CH4
Bottle Values		1206	12	20.9	2004	1505	504	0

Gas	Previous	Current	Difference
CO(ppm)	1295	1218.667	76.33333
CO2(%)	12.254375	12.02267	0.231708
NO(ppm)	1509.7375	1509.62	0.1175
THC(ppmC)	304.539583	327.6133	-23.07375

Span

InfoVer 1
Date 8/12/2008
Time 6:20:17
Purge Delay 30

Gas Path	Span	CO	CO2	O2	HC	NO	NO2	CH4
Bottle Values		1206	12	20.9	2004	1505	504	0

Gas	Previous	Current	Difference
NO2(ppm)	468.90625	501.38	-32.47375

Zero

InfoVer 1
Date 8/12/2008
Time 7:19:18
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	10	0	10
CO2(%)	0.015625	0	0.015625
NO(ppm)	5.9	0	5.9
NO2(ppm)	-1.2375	0	-1.2375

Zero
 InfoVer 1
 Date 8/12/2008
 Time 13:48:14
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	0.625	-9.333333	9.958333
CO2(%)	-0.01	-0.012	0.002
NO(ppm)	-0.98125	0.646667	-1.627917
NO2(ppm)	0.15	-0.84	0.99
THC(ppmC)	-0.84375	-0.48	-0.36375

Span
 InfoVer 1
 Date 8/12/2008
 Time 13:52:31
 Purge Delay 30
 Gas Path Span
 CO CO2 O2 HC NO NO2 CH4
 Bottle Values 1206 12 20.9 2004 1505 504 0

Gas	Previous	Current	Difference
CO(ppm)	1219.375	1196	23.375
CO2(%)	11.9825	12.014	-0.0315
NO(ppm)	1481.775	1513.58	-31.805
THC(ppmC)	326.035417	331.3267	-5.29125

Span
 InfoVer 1
 Date 8/12/2008
 Time 13:58:38
 Purge Delay 30
 Gas Path Span
 CO CO2 O2 HC NO NO2 CH4
 Bottle Values 1206 12 20.9 2004 1505 504 0

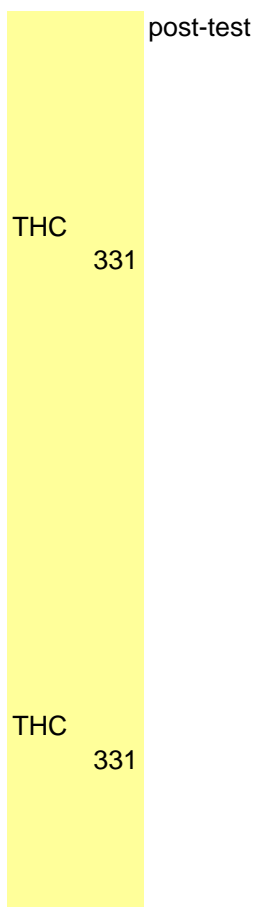
Gas	Previous	Current	Difference
NO2(ppm)	508.8375	505.24	3.5975

Auto-Zero Results:
 Start Time 56:40.9

Stop Time	58:24.9
CH4 Drift Limit	5
THC Drift Limit	5
Purge Time	30
Previous Path	SAMPLE
Zero Path	Ambient Air

Gas	Previous	Current	Difference	Pass/Fail
CO	-0.000153846	-0.001	0.000846	Pass
CO2	0.04	-0.006154	0.046154	Pass
NO	9.47742	0.096774	9.38065	Pass
NO2	-4.99677	-0.387097	-4.60968	Pass
CH4				
HC	2.13077	-0.015385	2.14615	Pass
THC				THC Within Drift Limit1





(a) & (b)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 8/13/2008

Time 6:25:24

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	64.375	0	64.375
CO2(%)	-0.01	0	-0.01
NO(ppm)	4.15625	0.16	3.99625
NO2(ppm)	1.89375	0.3	1.59375
THC(ppmC)	-8.35	-1.74	-6.61

Span

InfoVer 1

Date 8/13/2008

Time 6:28:26

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	1206	12	20.9	2004	1505	504	0	331

Gas	Previous	Current	Difference
CO(ppm)	1200	1232	-32
CO2(%)	11.955	12.062	-0.107
NO(ppm)	1495.563	1507.74	-12.1775
THC(ppmC)	337.2792	331.9867	5.2925

Span

InfoVer 1

Date 8/13/2008

Time 6:32:35

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	1206	12	20.9	2004	1505	504	0	331

Gas	Previous	Current	Difference
NO2(ppm)	473.3625	505.9333	-32.57083

Zero

InfoVer 1

Date 8/13/2008

Time 6:36:50

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
-----	----------	---------	------------

CO(ppm)	108.75	-5.333333	114.0833
CO2(%)	0	-0.006667	0.006667
NO(ppm)	1.6	-1.36	2.96
NO2(ppm)	0.4	-0.78	1.18
THC(ppmC)	-3.5125	-0.5	-3.0125

Zero

InfoVer 1
Date 8/13/2008
Time 7:36:02
Purge Delay 30
Gas Path Sample

Gas	Previous	Current	Difference
CO(ppm)	220	84	136
CO2(%)	0	0.005333	-0.005333
NO(ppm)	-1.3	0	-1.3
NO2(ppm)	2.2	0	2.2

Zero

InfoVer 1
Date 8/13/2008
Time 8:30:25
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	100	100	0
CO2(%)	0.01	0	0.01
NO(ppm)	1.3375	0.5	0.8375
NO2(ppm)	-1.60625	-1.266667	-0.339583
THC(ppmC)	-2.08125	-0.206667	-1.874583

Zero

InfoVer 1
Date 8/13/2008
Time 8:38:05
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	100	100	0
CO2(%)	0	0	0
NO(ppm)	0.8125	0.02	0.7925
NO2(ppm)	-2.91875	-1.046667	-1.872083
THC(ppmC)	0.38125	0.046667	0.334583

Zero

InfoVer 1
Date 8/13/2008
Time 9:54:18

Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	100	0	100
CO2(%)	0	0	0
NO(ppm)	1.90625	0	1.90625
NO2(ppm)	-4.25625	0	-4.25625
THC(ppmC)	0	0	0

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/13/2008
Time 11:37:02
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	80	0	80
CO2(%)	-0.00125	-0.007333	0.006083
NO(ppm)	1.575	0.193333	1.381667
NO2(ppm)	-0.38125	-0.04	-0.34125

Zero

InfoVer 1
Date 8/13/2008
Time 11:39:45
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	57.5	22	35.5
CO2(%)	-0.006875	-0.005333	-0.001542
NO(ppm)	-0.31875	0.706667	-1.025417
NO2(ppm)	-0.2	-0.333333	0.133333
THC(ppmC)	-4.88125	-0.466667	-4.414583

Zero

InfoVer 1
Date 8/13/2008
Time 11:42:39
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	98.75	-20	118.75

CO2(%)	0	0.002	-0.002
NO(ppm)	0.7	-0.213333	0.913333
NO2(ppm)	-0.59375	-0.2	-0.39375
THC(ppmC)	-0.2625	-0.02	-0.2425

Span											
InfoVer	1										
Date	8/13/2008										
Time	11:47:54										
Purge Delay	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Value	1206		12	20.9	2004	1505	504	0	331		
Gas	Previous	Current	Difference								
CO(ppm)	1268.75	1307.333	-38.58333								
CO2(%)	12.08688	11.968	0.118875								
NO(ppm)	1499.038	1510.28	-11.2425								
THC(ppmC)	323.3313	331.2022	-7.870972								

Span											
InfoVer	1										
Date	8/13/2008										
Time	11:52:11										
Purge Delay	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Value	1206		12	20.9	2004	1505	504	0	331		
Gas	Previous	Current	Difference								
NO2(ppm)	514.3438	506.42	7.92375								



pre-test

post-test

where did Carl E get these?
(not in session file I have)
These results have CO, CO2 and O2
which isn't possible since NDIR failed.

7/16/09: C Ensfield confirmed these are valid span results from 8391_3333_2,
he suspects NDIR bench came back online at end of test prior to this span being
performed

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/17/2008
Time 20:48:41
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.006	0	0.006
CO2(%)	0.03875	-0.01	0.04875
NO(ppm)	-4.85	0.046667	-4.896667
NO2(ppm)	-28.49375	0.006667	-28.50042

Span

InfoVer 1
Date 8/17/2008
Time 20:53:18
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.09	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.115437	0.121133	-0.005696
CO2(%)	11.81375	11.99667	-0.182917
NO(ppm)	1503.269	1508.393	-5.124583
THC(ppmC)	349.875	332.9467	16.92833

Span

InfoVer 1
Date 8/17/2008
Time 20:59:58
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	440.025	497.4	-57.375

Audit

Date 8/17/2008
Time 21:02:26
Audit Duration 30
Idle Duration 15
Audit Path Span
Idle Path Ambient Air
Gas Bottle Tol %Tol

CO (%)	0.02	0.005	3
CO2 (%)	6.04	0.2	3
O2 (%)	0	0.5	3
HC (ppmC:	0	8	3
NO (ppm)	304	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC	32	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.019		0 Passed
CO2(%)	6.04	6.02		0 Passed
O2(%)	0	10		0 Not Selected
HC(ppmC3	0	500		0 Not Selected
NO(ppm)	304	290.4467	3.884009	Passed
NO2(ppm)	0	100		0 Not Selected
CH4(ppm)	0	0		0 Not Selected
THC(ppmC	32	29.75556	0.027217	Passed

No Afternoon data - no post span

Audit/Span/Zero Information:

Zero

No post-tes

InfoVer 1
Date 8/19/2008
Time 6:07:58
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.001	0	0.001
CO2(%)	0.0175	0	0.0175
NO(ppm)	-0.29375	1.466667	-1.760417
NO2(ppm)	4.1125	-1.48	5.5925
THC(ppmC)	4.1	0.626667	3.473333

Zero

InfoVer 1
Date 8/19/2008
Time 6:18:30
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	-0.001375	0.001	-0.002375
CO2(%)	-0.01	0	-0.01

Span

InfoVer 1
Date 8/19/2008
Time 6:21:33
Purge Delay 30
Gas Path Ambient Air

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	3.5	13.9	20.9	2005	1505	504	0	200

Gas	Previous	Current	Difference
O2(%)	26.7	20.84667	5.853333

Span

InfoVer 1
Date 8/19/2008
Time 6:28:27
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	0.121	12.09	20.9	2005	1505	504	0	331

Gas	Previous	Current	Difference
CO(%)	0.118	0.1198	-0.0018
CO2(%)	12.21125	11.98	0.23125

NO(ppm)	1531.919	1505.14	26.77875
THC(ppmC)	328.55	330.7556	-2.205556

Span											
InfoVer	1										
Date	8/19/2008										
Time	6:32:21										
Purge Delay	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Values	0.121	12	20.9	2005	1505	504	0	331			
Gas	Previous	Current	Difference								
NO2(ppm)	494.3125	506.5467	-12.23417								

Audit			
Date	8/19/2008		
Time	6:36:35		
Audit Duration	30		
Idle Duration	15		
Audit Path	Span		
Idle Path	Ambient Air		
Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6.03	0.2	3
O2 (%)	0	0.5	3
HC (ppmC3)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC3)	32	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.020933	0.000258	Passed
CO2(%)	6.03	5.848	0.00414	Passed
O2(%)	0	10		0 Not Selected
HC(ppmC3)	0	500		0 Not Selected
NO(ppm)	305	309.4533	1.03155	Passed
NO2(ppm)	0	100		0 Not Selected
CH4(ppm)	0	0		0 Not Selected
THC(ppmC)	32	28.82444	0.015258	Passed

Zero	
InfoVer	1
Date	8/19/2008
Time	6:48:53
Purge Delay	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	8.31875	0	8.31875

NO2(ppm)	1.2	0.013333	1.186667
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No post-span data

st span performed

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/18/2008
Time 8:53:50
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0	0.001733	-0.001733
CO2(%)	-0.00125	0	-0.00125
NO(ppm)	5.13125	-1.413333	6.544583
NO2(ppm)	28.7	0.3	28.4
THC(ppmC)	-1.9125	-0.58	-1.3325

Span

InfoVer 1
Date 8/18/2008
Time 8:59:13
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.09	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.121	0.12	0.001
CO2(%)	12.06125	12.008	0.05325
NO(ppm)	1478.625	1511.053	-32.42833
THC(ppmC)	319.0542	329.1289	-10.07472

Span

InfoVer 1
Date 8/18/2008
Time 9:04:21
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	490.325	504.1267	-13.80167

Audit

Date 8/18/2008
Time 9:06:42
Audit Duration 30
Idle Duration 15
Audit Path Span
Idle Path Ambient Air
Gas Bottle Tol %Tol

CO (%)	0.02	0.005	3
CO2 (%)	6.03	0.2	3
O2 (%)	0	0.5	3
HC (ppmC:	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC	32	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.018933	0.000258	Passed
CO2(%)	6.03	6.054	0.007368	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	305	302.6533	1.259176	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	32	29.29556	0.065304	Passed

No afternoon data or post-test span

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 8/25/2008
Time 5:53:12
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.000563	-0.0006	0.001163
CO2(%)	-0.01	0	-0.01
NO(ppm)	0.01875	0.353333	-0.334583
NO2(ppm)	30.23125	-0.76	30.99125
THC(ppmC)	-6.64375	-1.153333	-5.490417

Span

InfoVer 1
Date 8/25/2008
Time 5:56:25
Purge Delay 30
Gas Path Ambient Air

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	2005	1505	504	0	200

Gas	Previous	Current	Difference
O2(%)	21.175	20.9	0.275

Span

InfoVer 1
Date 8/25/2008
Time 5:59:52
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	2005	1505	504	0	331

Gas	Previous	Current	Difference
CO(%)	0.116875	0.119133	-0.002258
CO2(%)	11.99188	12.00467	-0.012792
NO(ppm)	1486.219	1508.507	-22.28792
THC(ppmC)	322.3896	329.8956	-7.505972

Span

InfoVer 1
Date 8/25/2008
Time 6:03:40
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	2005	1505	504	0	331

Gas	Previous	Current	Difference
NO2(ppm)	489.875	506.8133	-16.93833

Audit

Date 8/25/2008

Time 6:05:44

Audit Durat 30

Idle Duratic 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6.03	0.2	3
O2 (%)	0	0.5	3
HC (ppmC:	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC	32	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.02		0 Passed
CO2(%)	6.03	5.910667	0.025765	Passed
O2(%)	0	10		0 Not Selected
HC(ppmC3	0	500		0 Not Selected
NO(ppm)	305	300.56	2.703384	Passed
NO2(ppm)	0	100		0 Not Selected
CH4(ppm)	0	0		0 Not Selected
THC(ppmC	32	29.41556	0.021331	Passed

Zero

InfoVer 1

Date 8/25/2008

Time 6:14:57

Purge Dela 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	3.91875	0.12	3.79875
NO2(ppm)	-7.1	0.033333	-7.133333

Zero

InfoVer 1

Date 8/25/2008

Time 6:38:05

Purge Dela 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	0	0	0

NO2(ppm)	0	0	0
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No afternoon data or post-span

No post-test span performed

No test data

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 9/23/2008

Time 7:23:54

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.007	0	0.007
CO2(%)	0.02	0	0.02
NO(ppm)	-9.3	-2.033333	-7.266667
NO2(ppm)	-32	0.84	-32.84
THC(ppmC)	6.675	1.186667	5.488333

Span

InfoVer 1

Date 9/23/2008

Time 7:27:00

Purge Delay 30

Gas Path Ambient Air

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
O2(%)	21.15625	20.9	0.25625

Span

InfoVer 1

Date 9/23/2008

Time 7:28:37

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.121125	0.12	0.001125
CO2(%)	11.9725	12.07467	-0.102167
NO(ppm)	1523.875	1510.533	13.34167
THC(ppmC)	328.5021	330.5311	-2.029028

Audit

Date 9/23/2008

Time 7:32:21

Audit Duration 30

Idle Duration 30

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
-----	--------	-----	------

CO (%)	0.02	0.005	3
CO2 (%)	6.03	0.2	3
O2 (%)	0	0.5	3
HC (ppmC:	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC	32	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.0204	0.000507	Passed
CO2(%)	6.03	6.122667	0.004577	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	305	293.5067	3.062321	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	32	29.5	0.053452	Passed

Span

InfoVer 1

Date 9/23/2008

Time 7:39:20

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	505.05	506.2067	-1.156667

Zero

InfoVer 1

Date 9/23/2008

Time 10:30:29

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.002437	-0.000467	0.002904
CO2(%)	0.02125	-0.008	0.02925
NO(ppm)	9.65625	-0.073333	9.729583
NO2(ppm)	-4.58125	0.686667	-5.267917
THC(ppmC	-3.15625	-0.98	-2.17625

Span

InfoVer 1

Date 9/23/2008

Time 10:34:17

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC	
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331	
Gas	Previous	Current	Difference						
CO(%)	0.117625	0.120267	-0.002642			-2.20%			
CO2(%)	11.97938	12.07067	-0.091292			-0.76%			
NO(ppm)	1468.9	1518.947	-50.04667			-3.29%			
THC(ppmC)	311.3271	328.7911	-17.46403			-5.31%			

Span									
InfoVer	1								
Date	9/23/2008								
Time	10:39:03								
Purge Dela	30								
Gas Path	Span								
	CO	CO2	O2	HC	NO	NO2	CH4	THC	
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331	
Gas	Previous	Current	Difference						
NO2(ppm)	494.4125	505.6267	-11.21417			-2.22%			

Test Information:

SEMTECH 9/23/2008 23:11.1 [RELEASE_VER=2.018 BUILD=50 BDATE=07/18/2008 IP=10.10.1.5]
EPA ERG Topeka KC testing

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 9/24/2008
Time 14:41:00
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.001	0.000067	0.000933
CO2(%)	-0.006875	0	-0.006875
NO(ppm)	-2.0375	1.546667	-3.584167
NO2(ppm)	-4.8	0	-4.8
THC(ppmC)	14.275	7.486667	6.788333

Span

InfoVer 1
Date 9/24/2008
Time 14:46:53
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.122562	0.1212	0.001362
CO2(%)	11.94688	11.95133	-0.004458
NO(ppm)	1517.213	1509.873	7.339167
THC(ppmC)	351.6917	332.2622	19.42944

Audit

Date 9/24/2008
Time 14:50:57
Audit Duration 30
Idle Duration 15
Audit Path Span
Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	0	0

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.0194	0.000828	Passed
CO2(%)	6	6.133333	0.00488	Passed

O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	305	269.2933	16.66414	Failed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	33.91556	0.492623	Failed

Audit

Date 9/24/2008

Time 14:51:46

Audit Durat 30

Idle Duratic 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
-----	--------	-----	------

CO (%)	0.02	0.005	3
--------	------	-------	---

CO2 (%)	6	0.2	3
---------	---	-----	---

O2 (%)	0	0.5	3
--------	---	-----	---

HC (ppmC:	0	8	3
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NO (ppm)	305	15	3
----------	-----	----	---

NO2 (ppm)	0	12	3
-----------	---	----	---

CH4 (ppm)	0	0	0
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THC (ppmC	31	6	2
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Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.019		0 Passed
CO2(%)	6	6.138	0.00414	Passed
O2(%)	0	10		0 Not Selected
HC(ppmC3	0	500		0 Not Selected
NO(ppm)	305	299.36	1.641341	Passed
NO2(ppm)	0	100		0 Not Selected
CH4(ppm)	0	0		0 Not Selected
THC(ppmC	31	33.18444	0.066508	Passed

Span

InfoVer 1

Date 9/24/2008

Time 14:56:06

Purge Dela 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	520.3	505.5133	14.78667

Zero

InfoVer 1

Date 9/24/2008

Time 16:53:07

Purge Dela 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.000375	-0.002333	0.002708
CO2(%)	0.05875	-0.062	0.12075
NO(ppm)	2.1125	1.386667	0.725833
NO2(ppm)	-13.55625	-2.653333	-10.90292
THC(ppmC)	12.85625	-3.233333	16.08958

Span

InfoVer 1

Date 9/24/2008

Time 16:59:49

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.115	0.12	-0.005
CO2(%)	11.83	12.09333	-0.263333
NO(ppm)	1473.519	1518.867	-45.34792
THC(ppmC)	307.8021	328.7133	-20.91125

Span

InfoVer 1

Date 9/24/2008

Time 17:04:09

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	487.3938	504.8	-17.40625

session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 9/24/2008

Time 21:01:08

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	-0.001187	0.000333	-0.001521
CO2(%)	-0.04	0	-0.04
NO(ppm)	-6.0875	1.006667	-7.094167
NO2(ppm)	-25.65	-0.4	-25.25
THC(ppmC)	1.75625	0.566667	1.189583

Span

InfoVer 1

Date 9/24/2008

Time 21:06:04

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.127	0.120733	0.006267
CO2(%)	11.90188	12.06733	-0.165458
NO(ppm)	1539.488	1507.227	32.26083
THC(ppmC)	362.7188	335.6467	27.07208

Audit

Date 9/24/2008

Time 21:11:35

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.020867	0.000352	Passed
CO2(%)	6	6.101333	0.003519	Passed

O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected
NO(ppm)	305	306.2133	0.841654	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	32.37778	0.029991	Passed

Span											
InfoVer	1										
Date	9/24/2008										
Time	21:14:58										
Purge Dela	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			

Gas	Previous	Current	Difference
NO2(ppm)	499.625	508.8533	-9.228333

Zero	
InfoVer	1
Date	9/24/2008
Time	21:17:44
Purge Dela	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
THC(ppmC	12.6625	12.30667	0.355833

Zero	
InfoVer	1
Date	9/25/2008
Time	2:33:25
Purge Dela	30
Gas Path	Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.008	-0.001	0.009
CO2(%)	0.0875	-0.05	0.1375
NO(ppm)	10.13125	0.553333	9.577917
NO2(ppm)	7.45625	-0.5	7.95625
THC(ppmC	10.53125	9.4	1.13125

Span											
InfoVer	1										
Date	9/25/2008										
Time	2:41:17										
Purge Dela	30										
Gas Path	Ambient Air										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			

Gas	Previous	Current	Difference
O2(%)	21.1875	0	21.1875

Zero
 InfoVer 1
 Date 9/25/2008
 Time 8:43:09
 Purge Delay 30
 Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	-0.003	-0.000733	-0.002267
CO2(%)	-0.06875	0	-0.06875
NO(ppm)	4.03125	0.533333	3.497917
NO2(ppm)	-6.30625	-1.633333	-4.672917
THC(ppmC)	12.175	21.44667	-9.271667

Span
 InfoVer 1
 Verify Only
 Date 9/25/2008
 Time 8:52:55
 Purge Delay 30
 Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.12	0.12	0
CO2(%)	12.06667	12.06667	0
NO(ppm)	1490.947	1490.947	0
THC(ppmC)	306.4022	306.4022	0

Span
 InfoVer 1
 Date 9/25/2008
 Time 8:55:57
 Purge Delay 30
 Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
NO2(ppm)	0	0	0

Span
 InfoVer 1
 Date 9/25/2008
 Time 8:56:25
 Purge Delay 30

Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			
Gas	Previous	Current	Difference								
NO2(ppm)	0	0	0								

Span											
InfoVer	1										
Date	9/25/2008										
Time	8:56:55										
Purge Dela	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			
Gas	Previous	Current	Difference								
NO2(ppm)	0	0	0								

Span											
InfoVer	1										
Date	9/25/2008										
Time	8:57:58										
Purge Dela	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			
Gas	Previous	Current	Difference								
NO2(ppm)	511.2688	505.58	5.68875								

Session (b)

Audit / zero / span data for afternoon session (Session b) is the same as for Session (a)



This is pre-test, Session a!

This is pre-test, Session a!

This is post-test, Session a!
invalid

This is post-test, session b!
(alternative calculation method)

CO(%)	-0.61%
CO2(%)	-0.01%
NO(ppm)	-1.09%
THC(ppmC)	-9.54%
NO2(ppm)	0.47%

This is post-test, session b!

This is post-test, session b!

This is post-test, session b!

This is post-test, session b!



Audit/Span/Zero Information:

Zero

InfoVer 1

Date 10/1/2008

Time 6:27:49

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.000438	0	0.000438
CO2(%)	0	0.002	-0.002
NO(ppm)	-3.75	0.62	-4.37
NO2(ppm)	-26.94375	0.506667	-27.45042
THC(ppmC)	0.56875	0.94	-0.37125

Span

InfoVer 1

Date 10/1/2008

Time 6:31:14

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.122	0.12	0.002
CO2(%)	12.08688	12.118	-0.031125
NO(ppm)	1505.856	1509.1	-3.24375
THC(ppmC)	361.2938	335.0444	26.24931

Audit

Date 10/1/2008

Time 6:35:15

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.020867	0.000352	Passed

CO2(%)	6	6.137333	0.009612	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3	0	500	0	Not Selected
NO(ppm)	305	299.0733	3.478807	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC	31	30.60222	0.10872	Passed

Span											
InfoVer	1										
Date	10/1/2008										
Time	6:39:42										
Purge Dela	30										
Gas Path	Span										
	CO	CO2	O2	HC	NO	NO2	CH4	THC			
Bottle Valu	0.121	12.1	20.9	1989	1505	505	0	331			
Gas	Previous	Current	Difference								
NO2(ppm)	487.875	507.9533	-20.07833								

No afternoon span data

session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 10/1/2008

Time 12:27:26

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.001437	0	0.001437
CO2(%)	0.02375	-0.016	0.03975
NO(ppm)	-3.9	1.84	-5.74
THC(ppmC)	13.06875	0.98	12.08875

Span

InfoVer 1

Date 10/1/2008

Time 12:30:49

Purge Delay 30

Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas	Previous	Current	Difference
CO(%)	0.12	0.120733	-0.000733
CO2(%)	12.02563	12.07333	-0.047708
NO(ppm)	1478.25	1517.173	-38.92333
THC(ppmC)	306.3917	329.5333	-23.14167

Audit

Date 10/1/2008

Time 12:34:53

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (%)	0.02	0.005	3
CO2 (%)	6	0.2	3
O2 (%)	0	0.5	3
HC (ppmC)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC)	31	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(%)	0.02	0.020333	0.000488	Passed
CO2(%)	6	6.081333	0.003519	Passed
O2(%)	0	10	0	Not Selected

HC(ppmC)	0	500	0	Not Selected
NO(ppm)	305	303.66	3.341899	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31	30.64222	0.08771	Passed

Zero
InfoVer 1
Date 10/1/2008
Time 12:36:28
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	2	0.053333	1.946667
NO2(ppm)	19.10625	1.193333	17.91292

Span
InfoVer 1
Date 10/1/2008
Time 12:38:12
Purge Delay 30
Gas Path Span

	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Value	0.121	12.1	20.9	1989	1505	505	0	331

Gas Previous Current Difference
NO2(ppm) 485.3813 507.48 -22.09875

Zero
InfoVer 1
Date 10/1/2008
Time 12:51:36
Purge Delay 30
Gas Path Sample

Gas	Previous	Current	Difference
CO(%)	0	0	0
CO2(%)	-0.02	0	-0.02

session (b)

Audit/Span/Zero Information:

Zero
InfoVer 1
Date 10/1/2008
Time 14:44:08
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.008	0	0.008
CO2(%)	0.0275	0	0.0275
NO(ppm)	1.4125	2.433333	-1.020833
NO2(ppm)	6.9	0.5	6.4
THC(ppmC)	-2.78125	-0.206667	-2.574583

Auto-Zero Results:

Start Time 11:39.8
 Stop Time 13:34.8
 CH4 Drift L 5
 THC Drift L 5
 Purge Time 30
 Previous P SAMPLE
 Zero Path Ambient Air

Gas	Previous	Current	Difference	Pass/Fail
CO	-0.001	0	-0.001	Pass
CO2	0.065385	-0.013077	0.078462	Pass
NO	6.27	0.332258	5.93774	Pass
NO2	17.4233	0.032258	17.3911	Pass
CH4				
HC	-1.29231	-1.03846	-0.253846	Pass
THC				THC Within Drift Limit1

Start Time 16:33.8
 Stop Time 18:15.8
 CH4 Drift L 5
 THC Drift L 5
 Purge Time 30
 Previous P SAMPLE
 Zero Path Ambient Air

Gas	Previous	Current	Difference	Pass/Fail
CO	-0.000846	-7.69E-05	-0.000769	Pass
CO2	-0.033077	-0.01	-0.023077	Pass
NO	0.367742	0.626667	-0.258925	Pass
NO2	-0.222581	-0.04	-0.182581	Pass
CH4				
HC	0.753846	-1.16154	1.91538	Pass
THC				THC Within Drift Limit1

Start Time 19:17.8
 Stop Time 21:01.8
 CH4 Drift L 5
 THC Drift L 5
 Purge Time 30
 Previous P AMBIENT AIR
 Zero Path Ambient Air

Gas	Previous	Current	Difference	Pass/Fail
CO	-0.000308	0.000154	-0.000462	Pass
CO2	-0.03	-0.002308	-0.027692	Pass
NO	0.1	0.425806	-0.325806	Pass
NO2	-0.1	-0.1	0	Pass
CH4				
HC	-0.469231	0.007692	-0.476923	Pass
THC				THC Within Drift Limit1

No post-test span data

Session (a)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date

Time

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(%)	0.001063	-0.001333	0.002396
CO2(%)	-0.014375	-0.003333	-0.011042
NO(ppm)	16.2875	-0.7	16.9875
NO2(ppm)	3.225	0	3.225
THC(ppmC)	8.7625	1.213333	7.549167

Test Information:

SEMTECH 10/6/2008 00:37.8 [RELEASE_VER=2.018 BUILD=50 BDATE=07/18/2008 IP=10.10.1.5
11L guessestimate

Session (b)

No post-test span

Audit/Span/Zero Information:

Test Information:

SEMTECH 10/6/2008 54:13.6 [RELEASE_VER=2.018 BUILD=50 BDATE=07/18/2008 IP=10.10.1.5
11L guessestimate



55]



55]

0062-0748

Audit/Span/Zero Information:

Zero

InfoVer 1
Date 10/9/2008
Time 5:53:31
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
NO(ppm)	-3.9375	0.113333	-4.050833
NO2(ppm)	9.44375	0.06	9.38375

Span

InfoVer	1							
Date	10/9/2008							
Time	5:56:17							
Purge Delay	30							
Gas Path	Span							
	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206	12	20.9	2005	1505	504	0	200

Gas	Previous	Current	Difference
NO2(ppm)	492.35	505.54	-13.19

Zero

InfoVer 1
Date 10/9/2008
Time 6:05:39
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-20	9.333333	-29.33333
CO2(%)	-0.0075	0	-0.0075

Zero

InfoVer 1
Date 10/9/2008
Time
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	11.25	-4.666667	15.91667
CO2(%)	0	0	0
THC(ppmC)	-22.8	-1.733333	-21.06667

Span

InfoVer 1
Date 10/9/2008

Time	6:11:48							
Purge Delay	30							
Gas Path	Span							
	CO	CO2	O2	HC	NO	NO2	CH4	THC
Bottle Values	1206	12	20.9	2005	1505	504	0	331.7
Gas	Previous	Current	Difference					
CO(ppm)	1180.625	1196.667	-16.04167					
CO2(%)	12.01	12.01533	-0.005333					
NO(ppm)	1511.313	1507.613	3.699167					
THC(ppmC)	317.0146	330.6844	-13.66986					

Audit

Date 10/9/2008

Time 6:16:45

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (ppm)	200	50	3
CO2 (%)	6.04	0.2	3
O2 (%)	0	0.5	3
HC (ppmC3)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC3)	31.1	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(ppm)	200	204	6.324555	Passed
CO2(%)	6.04	5.891333	0.010601	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected
NO(ppm)	305	309.0267	0.44955	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31.1	29.62222	0.016265	Passed

Zero

InfoVer 1

Date 10/9/2008

Time 6:49:42

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	45.625	-0.666667	46.29167
CO2(%)	-0.0075	0	-0.0075

Zero

InfoVer 1
Date 10/9/2008
Time 7:21:57
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	2.5	-7.333333	9.833333
CO2(%)	0.009375	0.002	0.007375
NO(ppm)	11.0625	-0.413333	11.47583
NO2(ppm)	2.94375	-0.2	3.14375
THC(ppmC)	-2.9625	-0.546667	-2.415833

Zero
InfoVer 1
Date 10/9/2008
Time 11:47:39
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	20	10	10
CO2(%)	0.02	-0.032667	0.052667
NO(ppm)	8.0375	0.593333	7.444167
NO2(ppm)	-10.775	-0.44	-10.335
THC(ppmC)	1.33125	0.053333	1.277917

session (a)

Afternoon...

Audit/Span/Zero Information:

Zero
InfoVer 1
Date 10/9/2008
Time 15:19:44
Purge Delay 30
Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	-10.625	-8	-2.625
CO2(%)	-0.0425	0	-0.0425
NO(ppm)	1.39375	0.533333	0.860417
NO2(ppm)	-0.8875	-1.08	0.1925
THC(ppmC)	-0.01875	-0.113333	0.094583

Span
InfoVer 1
Date 10/9/2008
Time 15:26:48

Purge Delay	30									
Gas Path	Span									
	CO	CO2	O2	HC	NO	NO2	CH4	THC		
Bottle Values	1206	12	20.9		2005	1505	504	0	331.7	
Gas	Previous	Current	Difference							
CO(ppm)	1199.375	1198.667	0.708333							
CO2(%)	12.0475	11.99733	0.050167							
NO(ppm)	1486.125	1506.533	-20.40833							
THC(ppmC)	308.3063	331.8822	-23.57597							

Audit

Date 10/9/2008

Time 15:30:57

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas Bottle Tol %Tol

CO (ppm) 200 50 3

CO2 (%) 6.04 0.2 3

O2 (%) 0 0.5 3

HC (ppmC3) 0 8 3

NO (ppm) 305 15 3

NO2 (ppm) 0 12 3

CH4 (ppm) 0 0 0

THC (ppmC3) 31.1 6 2

Gas	Bottle	Mean Value	Std Dev	Result
CO(ppm)	200	200	0	Passed
CO2(%)	6.04	5.903333	0.00488	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected
NO(ppm)	305	298.9533	0.467312	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31.1	29.9	0.000001	Passed

Span

InfoVer 1

Date 10/9/2008

Time 15:35:21

Purge Delay 30

Gas Path Span

CO CO2 O2 HC NO NO2 CH4 THC

Bottle Values 1206 12 20.9 2005 1505 504 0 331.7

Gas	Previous	Current	Difference	
NO2(ppm)	507.7188	504.0933	3.625417	0.72%

6:12:59 AM

Provided by Sensors (not in xml fil

NO(ppm)	1510.55	1505.687	4.863333
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NO2(ppm)	503.00625	504.9533	-1.947083
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Session (a)

Audit/Span/Zero Information:

Zero

InfoVer	1
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Date	10/10/2008
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Time	6:58:04
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Purge Delay	30
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Gas Path	Ambient Air
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Gas	Previous	Current	Difference
NO(ppm)	0	0	0
NO2(ppm)	0	0	0

Zero

InfoVer	1
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Date	10/10/2008
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Time	6:58:52
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Purge Delay	30
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Gas Path	Ambient Air
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Gas	Previous	Current	Difference
NO(ppm)	4.41875	0	4.41875
NO2(ppm)	6.5	0	6.5

Zero

InfoVer	1
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Date	10/10/2008
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Time	9:07:21
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Purge Delay	30
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Gas Path	Ambient Air
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Gas	Previous	Current	Difference
NO(ppm)	10.79375	0.586667	10.20708
NO2(ppm)	-7.6875	-1.4	-6.2875
THC(ppmC)	2.1375	-0.106667	2.244167

Session (b)

Audit/Span/Zero Information:

Zero

InfoVer 1

Date 10/10/2008

Time 12:26:39

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	30	-8	38
CO2(%)	-0.005625	-0.01	0.004375
NO(ppm)	7.46875	0.46	7.00875
NO2(ppm)	2.9625	0	2.9625
THC(ppmC)	0.45625	0.013333	0.442917

Zero

InfoVer 1

Date 10/10/2008

Time 13:46:50

Purge Delay 30

Gas Path Ambient Air

Gas	Previous	Current	Difference
CO(ppm)	0	-12.66667	12.66667
CO2(%)	-0.0175	-0.01	-0.0075
NO(ppm)	2.1875	2.04	0.1475
NO2(ppm)	12.15625	-0.78	12.93625
THC(ppmC)	2.9375	0.42	2.5175

Audit

Date 10/10/2008

Time 13:57:03

Audit Duration 30

Idle Duration 15

Audit Path Span

Idle Path Ambient Air

Gas	Bottle	Tol	%Tol
CO (ppm)	200	50	3
CO2 (%)	6.04	0.2	3
O2 (%)	0	0.5	3
HC (ppmC3)	0	8	3
NO (ppm)	305	15	3
NO2 (ppm)	0	12	3
CH4 (ppm)	0	0	0
THC (ppmC3)	31	6	2

Gas	Bottle	Mean Value	Std Dev	Result
CO(ppm)	200	170.6667	2.581989	Passed
CO2(%)	6.04	5.854	0.005071	Passed
O2(%)	0	10	0	Not Selected
HC(ppmC3)	0	500	0	Not Selected

No post-test span (only a post-test

NO(ppm)	305	300	1.048128	Passed
NO2(ppm)	0	100	0	Not Selected
CH4(ppm)	0	0	0	Not Selected
THC(ppmC)	31	28.06667	0.012599	Passed

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