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PARTICULATE, CO, SO₂, AND LEAD EMISSION TESTING
ON THE CUPOLA EXHAUST

CHARLOTTE PIPE AND FOUNDRY

CHARLOTTE, NORTH CAROLINA
OCTOBER 3, 1994

TEST REPORT #5540
After Hot Blast

ANALYTICAL TESTING CONSULTANTS, INC.

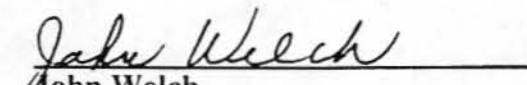
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RESULTS SUMMARY

SYSTEM CHARLOTTE PIPE AND FOUNDRY
CUPOLA EXHAUST
CHARLOTTE, NORTH CAROLINA

TEST DATE OCTOBER 3, 1994

<u>GENERAL PARAMETER</u>	<u>RUN #1</u>	<u>RUN #2</u>	<u>RUN # 3</u>	<u>AVERAGE</u>
Qs, FLOW, ACFM	90,303	93,407	93,585	92,431
Qs dry, FLOW SCFM	52,185	54,404	55,768	54,119
Vm std; CUBIC FT.	60.82	44.27	45.26	
%I	90.67	98.92	98.66	
<u>PARTICULATE</u>				
PMR AVG, LB/HR	5.952	6.533	6.995	6.493
Cs, GR/SCFD	0.0140	0.0141	0.0147	0.0143
PROCESS RATE TONS MELT/HR	50	55	55	
<u>CARBON MONOXIDE</u>				
PPM	51.98	29.64	37.22	39.61
LBS/HR	11.77	7.00	9.01	9.26
<u>OXYGEN ANALYSIS</u>				
O2 % BY CEM	11.83	12.07	12.01	11.97
O2 % BY SEMI-CONTINUOUS MONITOR	11.71	12.33	12.19	12.08

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RESULTS SUMMARY

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<u>LEAD</u>	<u>RUN #1</u>	<u>RUN #2</u>	<u>RUN #3</u>	<u>AVERAGE</u>
MASS, UG	12,338	9,476	8,810	10,208
PMR AVG, LBS/HR	1.335	1.532	1.427	1.431
CS, GR/SCFD	0.0031	0.0033	0.0030	0.0031

<u>SULFUR DIOXIDE</u>	<u>RUN #1</u>	<u>RUN #2</u>	<u>RUN #3</u>	<u>AVERAGE</u>
PPM, SO2	1.23	1.43	1.72	1.46
LBS/HR SO2	0.640	0.771	0.950	0.787

AUDIT SAMPLES

8778, MG/DSCM	732	729
8868, MG/DSCM	1657	1652

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PARTICULATE EMISSION RATE CALCULATION

SOURCE: DATA/CALCULATION DATE	CUPOLA EXHAUST			AVERAGE
	RUN #1 10/3/94	RUN #2 10/3/94	RUN #3 10/3/94	
AVG DH (IN H2O)	3.52	1.72	1.74	
P ATM (IN HG)	29.83	29.83	29.83	
PM (IN HG)	30.09	29.96	29.96	
PS (GAUGE)	-2	-2	-2	
PS (IN HG)	29.683	29.683	29.683	
tM (DEG F)	72.42	80.00	79.17	
TM (DEG R)	532.4167	540	539.1667	
VM (FT3)	60.98	45.22	46.16	
VM STD (FT3)	60.8152	44.26936	45.26169	
VLQ (ML)	381.4	262.8	239.7	
VV STD (FT3)	17.97067	12.38252	11.2941	
V STD (FT3)	78.78587	56.65188	56.55579	
%M	22.810	21.857	19.970	21.546
MD	0.772	0.781	0.800	
MWD	29.954	29.880	29.898	
M	27.228	27.283	27.522	
tS (DEG F)	249.25	249.25	250.00	249.50
TS (DEG R)	709.25	709.25	710	709.5
SUM SQRT DP	16.882	17.480	17.581	
N DP	12	12	12	
AVG SQRT DP	1.407	1.457	1.465	
CP	0.84	0.84	0.84	
VS (FT/SEC)	94.631	97.884	98.070	96.862
DS (IN)	54	54	54	
AS (FT2)	15.9043	15.9043	15.9043	
QS, ACFM	90302.81	93406.84	93584.6	92431.42
Q STD (FT3/MIN)	67604.91	69621.88	69684.16	68970.32
Q STD DRY, SCFM	52184.56	54404.48	55768.35	54119.13
WT (GM)	0.055	0.0404	0.0432	
PMRC (LB/HR)	6.244	6.569	7.042	6.618
DN (IN)	0.25	0.2	0.2	
AN (IN2)	0.049	0.031	0.031	
TIME (MIN)	60	60	60	
PMRA (LB/HR)	5.661	6.497	6.948	6.369
%I	90.67	98.92	98.66	
PMR AVG (LB/HR)	5.952	6.533	6.995	6.493
%CO2	9.29	8.67	8.81	8.92
%O2	11.71	12.33	12.19	12.08
%CO	0.00	0.00	0.00	0.00
%N2	79.00	79.00	79.00	79.00
%EA	128.141	144.7121	140.5953	137.8161
CS (GR/SCFD)	0.0140	0.0141	0.0147	0.0143