



Shenango
INCORPORATED

NEVILLE ISLAND
PITTSBURGH, PA 15225-1890
(412) 771-4400

August 8, 2002

Allegheny County Health Department
Air Quality Program
Emission Inventory Section
301 39th Street
Pittsburgh, PA 15201-1891
Attention: Mr. Gary Fischman

RECEIVED

AUG 18 2002

ALLEGHENY COUNTY HEALTH DEPT.
AIR QUALITY PROGRAM

Subject: Shenango Incorporated
2001 Emission Fees

Dear Mr. Fischman,

In accordance with Allegheny County Health Department Rules and Regulations, Article XXI section 2108.01.e, Shenango Incorporated submitted an emission inventory statement for report year 2001 in correspondence dated March 29, 2002. The statement was evaluated by the Department's Air Quality Program and a fee was assessed based upon the results.

As indicated during our telephone conversation from last week, Shenango has received the Department's invoice dated July 25, 2002, which reflects adjusted emissions. As we discussed, Shenango is not contesting the changes the Department made in the emission estimates but would like to meet or further discuss the methodology used by the Department to estimate Hydrochloric Acid emissions at our facility.

Hydrochloric Acid emission estimates developed by Shenango for report year 2001 were based on coke oven gas test results from another coke making facility as directed by the Department. Although, Shenango questioned the applicability of this other facility's test data to its operation, site-specific Hydrochloric Acid test data was unavailable and therefore the test data from the other facility was used to develop the estimate for our facility.

Since the completion of the 2001 Emission Inventory Statement, Shenango has completed site specific Hydrochloric Acid testing. Results from the testing, which was performed in May 2002, indicate a much different Hydrochloric Acid concentration than that reflected in the other facility's test data and used to

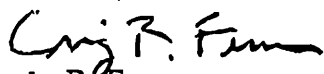
develop the 2001 emission estimate for our facility. The Department was not given advanced notice of this testing, since the testing was not being performed for compliance determination but merely an attempt to validate the applicability of the other facility's test data to our facility.

Per your request, attached is a photocopy of the test methodology used for testing along with the Hydrochloric Acid, Chlorine, Fixed Gas and Light Hydrocarbon and test results. Shenango is requesting that the Department apply our site specific results to the 2001 emission estimate to reflect Hydrochloric Acid emissions that are more representative of Shenango's operation.

As indicated during a later discussion you and George Manown had with Nick Buchko of Shenango, the difference in the Hydrochloric Acid concentration may be based on the fact that Shenango operates a different by-products facility than that used by the other facility.

Please contact either Jim Birsic at 412-777-6635 or myself at 412-777-6083 after you have had a chance to review the results of the testing so we can arrange to meet or otherwise discuss this matter further.

Very Truly Yours,


Craig R. Ferrese
Environmental Coordinator
Shenango Incorporated

Attachments

**DIAGNOSTIC TESTING PROGRAM
SHENANGO STEEL CORPORATION
PITTSBURGH, PENNSYLVANIA**

Testing Date: May 29, 2002

Prepared by Air/Compliance Consultants, Inc.

William Cowell

William Cowell
Project Engineer

gk

Jill W. Merrill

Jill W. Merrill
President

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**DIAGNOSTIC TESTING PROGRAM
SHENANGO STEEL CORPORATION
PITTSBURGH, PENNSYLVANIA**

TESTING SUMMARY

Air/Compliance Consultants, Inc. (ACCI) was contracted by the Shenango Group, Inc. (Shenango) to conduct a diagnostic test program on the Hydrogen Chloride emissions from the Combustion Stack. The tests were conducted on May 29, 2002 in accordance with United States Environmental Protection Agency (USEPA) Reference Method 26A for hydrochloric acid (HCl).

TEST PERSONNEL

Mr. William P. Cowell, Project Engineer, and Mr. Patrick Walters, Technician, of ACCI, conducted the testing on May 29, 2002.

TEST METHOD

HCl emissions were determined in accordance with USEPA Method 26A. The principal for Method 26A is to extract and filter an isokinetic sample from the source and collect the halides in a sulfuric acid solution. The hydrogen halides are solubilized in the acid solution and form chloride ions (Cl^-), which is analyzed by ion chromatography (IC).

The sampling train was leak-checked before and after each test run. Each test run was at least 60 minutes in duration and had a minimum sample volume of 40 dry standard cubic feet (DSCF).

Two chilled impingers, each contained 100 milliliter (ml) of 0.1N sulfuric acid (H_2SO_4), were connected in series, followed by silica gel and a dry gas used to collect the HCl. At the end of the testing period, the volume of liquid collected in the impinger contents were measured and transferred to a polyethylene sample storage container. The impingers and connecting glassware were rinsed three times with deionized water and combined with the impinger catch. These

hydrochloric acid samples were analyzed by IC by Air Quality Services, Inc in Pittsburgh, Pennsylvania.

RESULTS

Table 1 shows the results of the HCl testing on the combustion stack. No detectable Chloride was found in the impingers, so the results were reported at the detection limit.

Laboratory results are included as Appendix A. Field data sheets are included as Appendix B. Quality Assurance Data is contained in Appendix C.

Table 1. Hydrogen Chloride Test Results, Combustion Stack
Shenango Incorporated, Neville Island, Pennsylvania

Run # Date	Run 1 05/29/02	Run 2 05/29/02	Average
Flow Rate (ACFM)	146,877	143,115	144,996
Flow Rate (SCFM)	70,822	68,569	69,695
Flow Rate (DSCFM)	58,542	53,136	55,839
Stack Temperature (°F)	620.7	627.6	624.1
Percent Gas Moisture	17.3%	22.5%	19.9%
O ₂ Concentration (% volume)	7.0	8.0	7.5
CO ₂ Concentration (% volume)	6.0	6.0	6.0
Volume Sampled (DSCF)	45.57	42.12	43.85
Volume Sampled (DSCM)	1.29	1.19	1.24
F-Factor (DSCF/MMBtu)	7,755	7,755	7,755
HHV (Btu/DSCF)	542.2	542.2	542.2
HCl Mass Collected (mg)	< 0.004	< 0.003	< 0.004
HCl Mass Collected (grains)	< 0.00006	< 0.00005	< 0.00006
HCl sample concentration (mg/m ³)	< 0.003	< 0.003	< 0.003
Isokinetic Variation	99.7%	101.5%	100.6%
Results			
HCl Concentration (gr/100 SCF stack gas)	< 0.0001	< 0.0001	< 0.0001
HCl Concentration (ppm.)	< 0.0021	< 0.0018	< 0.0020
HCl Emission Rate (lb/hr)	< 0.0008	< 0.0007	< 0.0008
DSCF Stack Gas/SCF COG	6.32	6.81	6.5678
HCl Concentration (lb/MMCF-COG)	< 0.0001	< 0.0001	< 0.0001

ACFM	Actual cubic feet per minute.
SCFM	Standard cubic feet per minute.
DSCFM	Dry standard cubic feet per minute.
° F	Degrees Fahrenheit.
% volume	Percent by volume.
O ₂	Oxygen.
CO ₂	Carbon dioxide.
MMBtu	Million British Thermal Units
Btu/DSCF	British Thermal Units per dry standard cubic foot
HCl	Hydrogen Chloride.
mg	Milligrams.
mg/m ³	Milligrams per cubic meter.
gr/100 SCF	Grains per hundred standard cubic feet.
lb/MMCF	Pounds per million standard cubic feet.

AIR QUALITY SERVICES, INC.

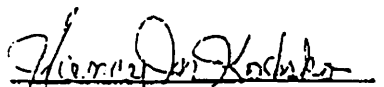
4527 Clairton Boulevard
Pittsburgh, PA 15236
(412) 881-5630

TABLE II
ANALYSIS OF SAMPLES FOR HYDROGEN HALIDES AND HALOGENS
AIR COMPLIANCE CONSULTANTS, INC.
1050 WILLIAM PITT WAY
PITTSBURGH, PA 15238
PROJECT #02-096/00-037
SAMPLES RECEIVED: MAY 29, 2002

ACCI INC. SAMPLE ID	AQS LABORATORY NUMBER	SAMPLE VOLUME ML	SAMPLE pH	HALIDE HCL TOTAL MG	HALOGEN CHLORINE TOTAL MG
COMBUSTION STACK					
RUN #1	AQS-87132	410	1.85	NDA	NA
RUN #2	AQS-87133	330	1.78	NDA	NA

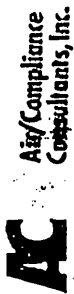
NDA = NO DETECTABLE AMOUNT
THE MOLECULAR WEIGHT OF 36.46 USED FOR THE HCL CALCULATION.

THE SAMPLES WERE ANALYZED BY ION CHROMATOGRAPHY BASED ON THE ENVIRONMENTAL PROTECTION AGENCY (EPA) METHOD 26A. THE LIMIT OF DETECTION FOR CHLORIDE IS 0.01 UG/ML.


AIR QUALITY SERVICES, INC.

JOB 7275
REPORTED: MAY 31, 2002

The presented data has been analyzed according to approved protocol and is certified to be complete and accurate.



1050 William Pitt Way
Pittsburgh, PA 15238

(412) 826-3636
(412) 826-3640

Send Results to
Bill Cowell

Fast Turnaround for Sulfur Sample--Standard Turnaround for remaining analyses

Project Number		02-096/00-037		Analysis Requested				Remarks
Project Name		Shenango COG extras						
Test Location		Meter Bldg./Combustion Stack						
Analytical Laboratory		Air Quality Services						
Lab Contact and Phone		Nancy (412) 881-5630						
Sample Identification Number	Sample Collection Date	Start Time	Stop Time	Number of Containers				
Combustion Stack	5/29/02			(1) IN H ₂ SO ₄ bottle		X		
Combustion Stack	5/29/02			(1) IN H ₂ SO ₄ bottle		X		
Relinquished by (signature)		Date	Time	Received by (signature)		Date	Time	
William F. Cowell		5/29/02	13:01	Valerie M. Stetler		5-29-02	1pm	

Start Time: 0:50

Stop Time: 9:30

Sample Box #:

Probe #: 9'

Pitot #:

Filler #:

Stack Diameter: 10'

Ambient Temp: 70 °F

Delta H@: 0.990

Meter Correction: 0.990

Pitot Correction: 0.84

Control Box #: Apex #

Assumed Moisture: 13%

K-factor (K_f): 15.44

Method # 1082

Nozzle Dia: .433

Static Press, Ps: 1.5

Barometric Press: 29.65

Initial Meter Vol: 194.524

Final Meter Vol: 241.629

Test/Run #: Method # 1082

Nozzle Dia: .433

Static Press, Ps: 1.5

Barometric Press: 29.65

Initial Meter Vol: 194.524

Final Meter Vol: 241.629

Point	Time	Metered Volume (dcl)	Velocity Head (ΔP) in. H ₂ O	Orifice Delta H in. H ₂ O	Meter Vacuum in. Hg	Probe Temp. T _s °F	Stack Temp. °F	Dry Gas Meter Temp. °F	Oven Temp. °F	Imp Out Temp °F	Aux. Line Temp. °F	Comments
A1	5	199.415	.15	2.3	2.3	250	630	73	242	52	248 ± 2.3°	
2	10	202.285	.14	2.1	2.1	248	610	75	260	53	248 ± 2.3°	
3	15	206.963	.15	2.3	2.3	248	608	75	258	52	248 ± 2.3°	
B1	20	210.352	.13	2.0	2.0	251	620	77	257	52	248 ± 2.3°	
2	25	214.450	.15	2.3	2.3	255	622	78	260	53	248 ± 2.3°	
3	30	218.660	.15	2.3	2.3	252	628	78	261	53	248 ± 2.3°	
L1	35	222.485	.13	2.0	2.0	250	615	79	262	54	248 ± 2.3°	ISO
2	40	226.331	.14	2.1	2.1	248	617	80	263	55	248 ± 2.3°	QA.7
3	45	230.220	.13	2.0	2.0	249	620	80	262	57	248 ± 2.3°	
D1	50	234.055	.14	2.1	2.1	250	621	80	261	57	248 ± 2.3°	
2	55	237.872	.15	2.3	2.3	252	624	81	262	58	248 ± 2.3°	
3	60	241.629	.13	2.0	2.0	253	623	81	262	58	248 ± 2.3°	

Sample Train Leak Check			Pilot Leak Check			Gas Analysis			Impinger			Contents		Grams Final	Grams Initial	Difference
	(in. Hg)	Rate (lit/m)	Red	Black	in. H ₂ O/gph	1	2	Avg	1	2	3	4				
	15"	0.00			✓	6			1	100 ML	129		11.00	69		
					✓	8			2	100 ML	137		11.00	37		
									3	Empty						
	15"	0.00							4	Silica						

4.4331

100.1759

1759

Test Date

05/29/80

Test Run No

Run 2

Test Start

10:15 AM

Test Finish

11:35 AM

Plant ID

Needle Island

Dimensions

120" Dia., 43" Nozzle

Unit

Shenango, Inc

Test Location

Outer

Unit Operation

Normal

Note

Red is a cell reference or calculation
Blue is data entry

Data Input Parameters

Meter Box # 2
Barometric Pressure (Pb) 29.65 in Hg
Static Pressure (Ps) -1.50 in H₂O
Water Collected (Wt.) 259.90 g
Test Time (Thet) 60 min
O₂ Content 8.00 %
CO₂ Content 86.00 %
N₂ Content 2.03 %
Delta H Average 0.84 in H₂O
Pilot Coefficient (Cp) 85.0 F
Meter Temperature (Tm) 0.3604 F
Velocity Head (DP)_{VS} 637.6 ft³
Duct Temperature (Ts) 41.110 in
Volume Metered (V_m) 0.433 in
Nozzle Diameter (Dn) 120.0 ft²
Stack Diameter 78.54
Area (As) 0.99
Correction Factor (Yd) 15.62
Calculator Multiplier

Calculated Results

Duct Pressure (Ps) 29.54 in Hg
Vol. Metered Stand. (V_{std}) 42.12 ft³
Vol. Metered Wet Stand (V_{wstd}) 12.231 ft³
Gas Moisture (Bwa) 0.2231 decimal
Below Sat. ? YES
Dry Gas Mol Wt. (M_d) 29.28 lb/lb-mole
Wet Gas Mol Wt. (M_w) 26.7 lb/lb-mole
Gas Velocity (V_s) 30.37 ft/s
Actual Gas Flowrate 343.115 acfm
Standard Gas Flowrate 63.569 scfm
Dry Standard Gas Flowrate 53.136 scfm
Isokinetic Sampling Rate 101.5%

Shenango, Inc.

Row 2

Point	Delta P	SOFT DP	Delta H	Start Temp	Water Temp
A-1	0.140	0.3742	2.2	610	81
A-2	0.130	0.3605	2.0	613	82
A-3	0.120	0.3606	2.0	640	82
A-4	0.140	0.3742	2.1	624	81
A-5	0.120	0.3464	1.9	621	83
A-6	0.110	0.3605	2.0	625	86
B-1	0.120	0.3464	1.9	626	86
B-2	0.140	0.3742	2.2	630	86
B-3	0.130	0.3606	2.0	633	87
B-4	0.130	0.3605	2.0	622	87
B-5	0.120	0.3464	1.9	624	87
B-6	0.130	0.3606	2.0	623	88
AVERAGES	0.130	0.3604	2.0	627.6	85.0
Initial meter vol	241.720				
Final meter vol	285.830				
Volume metered	44.110				
Impinger 1	245.0			Initial	Gain
Impinger 2	120.0			100.0	145.0
Impinger 3	1.0			100.0	20.0
Impinger 4	714.4			0.0	1.0
				705.5	8.9
				Total V _{SC} =	239.9

