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**ATTACHMENT 2**

Table 1. Boiler 1 and 2 Data  
Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

Unit	Constituent	Stack Test or Emission Factor units	Rated Capacity (MMBtu/hr)	Potential COG Usage cff/hr	Potential COG Usage mmcf/yr	Potential Natural Gas Usage cff/hr	Potential Natural Gas Usage mmcf/yr	Potential Emissions (lb/hr) (Tons/yr)
<b>COKE OVEN GAS</b>								
Boiler 1	VOC	0.005 lb/MMBtu	143.0	291,837	2,556.5			0.715 3.132
Boiler 2	VOC	0.005 lb/MMBtu	143.0	291,837	2,556.5			0.715 3.132
TOTAL				583,673	5,113.0			1.430 6.263
<b>NATURAL GAS</b>								
Boiler 1	VOC	5.5 lb/mmcf	143.0			143,000	1,252.7	0.787 3.445
Boiler 2	VOC	5.5 lb/mmcf	143.0			143,000	1,252.7	0.787 3.445
TOTAL						286,000	2,505.4	1.573 6.890
<b>MAXIMUM EMISSIONS</b>								
								1.573 6.890

Notes:

- Derivation of Stack Test Result 1999 stack test data for COG  

$$\text{VOC Stack Test Results} = (\text{MW}_{\text{propane}} / 385.1 \times 10^6) \times \text{ppm}_{\text{VOC}} \times \text{F-Factor} \times 20.9 / (20.9 - \text{O}_2)$$
  - $\text{MW}_{\text{propane}} = 44 \text{ lb/lb-mole}$
  - $\text{ppm}_{\text{VOC}} = 4.8 \text{ ppm}$ , using the highest of the 3 runs
  - $\text{F-Factor} = 7,653 \text{ dcsf/MMBtu}$
  - $\text{O}_2 = 2.77 \%$
- VOC Stack Test Results = 0.005 lb/MMBtu
- AP-42 emission factor for natural gas contained in AP-42, Section 1.4, Natural Gas Combustion, 7/98
- Higher heating value of the coke oven gas: 490 Btu/cf, testing data (lowest). Used in derivation of gas usage
- Higher heating value of the natural gas: 1000 Btu/cf. Used in derivation of gas usage
- Annual actual emission factor derivation for COG for use in the annual emission statements:  

$$\text{VOC Stack Test Results} = (\text{MW}_{\text{propane}} / 385.1 \times 10^6) \times \text{ppm}_{\text{VOC}} \times \text{F-Factor} \times 20.9 / (20.9 - \text{O}_2)$$
  - $\text{MW}_{\text{propane}} = 44 \text{ lb/lb-mole}$
  - $\text{ppm}_{\text{VOC}} = 3.36 \text{ ppm}$ , using the average of the 3 runs
  - $\text{F-Factor} = 7,653 \text{ dcsf/MMBtu}$
  - $\text{O}_2 = 2.77 \%$

VOC Stack Test Results =  
 Higher Heating Value during test =  
 Emission factor:

Table 2. Underfires (Combustion Stack) Data  
 Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

Test Year	COG Hourly Fuel Flow (scf/hr)		COG Annual Fuel Flow (mmcf/yr)		COG HHV (BTU/scf)	Calculated MMBtu/hr	
	Battery 1B	Battery 2	Battery 1B	Battery 2		Battery 1B	Battery 2
2002	227,673	164,233	1,994	1,439	503	114.52	82.61
2001	222,000	159,000	1,945	1,393	496	110.11	78.86
2000	225,000	116,000	1,971	1,016	490	110.25	56.84
1999	244,113	137,500	2,138	1,205	490	119.62	67.38
1998	222,928	114,490	1,953	1,003	497	110.80	56.90
Maximum	244,113	164,233	2,138	1,439	503	119.62	82.61

MMBtu/hr will be calculated using maximum hourly flow from testing data and HHV of 550 Btu/scf (Title V)

Battery 1B                    134 MMBtu/hr  
 Battery 2                     90 MMBtu/hr

Table 3. Coke Pushing, Fugitive Loss Calculations and Maximum Coal/Coke Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

<b>NOx</b>	
Results from January 2003 Statistical Analysis	
Stack Emissions:	14.20 lb/hr 25.50 tpy
Uncontrolled Emissions	
Capture Efficiency:	85 %
Baghouse Control Efficiency:	0 %, for gaseous pollutants
Uncontrolled Emissions:	16.71 lb/hr 30.00 tpy
Fugitive Emissions	
	2.51 lb/hr 4.50 tpy
<b>VOC</b>	
Results from January 2003 Statistical Analysis	
Stack Emissions:	2.30 lb/hr 4.50 tpy
Uncontrolled Emissions	
Capture Efficiency:	85 %
Baghouse Control Efficiency:	0 %, for gaseous pollutants
Uncontrolled Emissions:	2.71 lb/hr 5.29 lb/hr
Fugitive Emissions	
	0.41 lb/hr 0.79 tpy
Maximum amount of Coal Charged:	
Title V Maximum Coal:	541,000 tons/yr, RACT permit 531,072 tons/yr
Title V Maximum Coke:	395,076 tons/yr
Ratio:	1.344227 tons coal/ton coke
Maximum Amount of Coke Produced:	402,462 tons/yr

Flaring Data  
Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

Constituent	Emission Factor units	Potential COG Usage cf/hr	Potential COG Usage mmcf/yr	Potential Natural Gas Usage cf/hr	Potential Natural Gas Usage mmcf/yr	Potential Emissions (lb/hr)	Potential Emissions (Tons/yr)
<b>COKE OVEN GAS</b>		833,000	7,270.80				
NOx	37.4 lb/mmcf					31.154	135.964
VOC	32.64 lb/mmcf					27.189	118.659
<b>NATURAL GAS</b>				150	1.314		
NOx	100 lb/mmcf					0.015	0.066
VOC	5.5 lb/mmcf					0.001	0.004
<b>TOTAL</b>						31.169	136.030
NOx						27.190	118.663
VOC							

1. Potential COG Flared  
Existing Flare

5,550 SCFM, Title V  
333,000 SCFH

Supplemental Flare

2,890.8 mmcf/yr  
12.00 mmcf/day, Title V

TOTAL

500,000 SCFH  
4,380 mmcf/yr, Title V

2. Potential Natural Gas Usage

833,000 SCFH  
7,270.80 mmcf/yr  
150 SCFH, Title V, TOTAL  
1.314 mmcf/yr

3. NOx emission factor for COG is contained in AP-45, Section 13.5, 9/91, as follows:

0.068 lb/MMBtu

Converting to an emission factor in units of lb/mmcf:

HHV of COG =  
NOx Emission Factor =  
550 Btu/cf, Title V  
37.4 lb/mmcf

4. VOC emission factor for COG calculated using the following assumptions:

Mass Fraction of VOC in COG = 0.120  
COG Density = 27,200 lb/mmcf  
Flare Destruction Efficiency = 99 %  
VOC Emission Factor = 32.64

5. Natural gas emission factors contained in AP-42, Section 1.4, Natural Gas Combustion, 7/98.

Table 5. Stack Information  
 Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

Battery 1B Combustion Stack

Stack Height 210 feet, Title V  
 Stack Diameter 135 inches, 2002 stack test  
 11.25 feet  
 Location of sampling ports four 90 degrees opposed sampling ports  
 test ports located 61 feet downstream nearest  
 disturbance and 100 feet upstream nearest  
 disturbance (2002 test protocol)

Test Year	Exhaust Flow (scfm)	Exhaust Temp. (F)	Moisture (%)
2002	35,000	583	18
2001	37,000	576	17
2000	34,000	584	16
1999	33,000	574	16
1998	43,000	594	17
Average	36,400	582	17

Battery 2 Combustion Stack

Stack Height 235 feet, Title V  
 Stack Diameter 112 inches, 2002 stack test  
 9.33 feet  
 Location of sampling ports four 90 degrees opposed sampling ports  
 test ports located 53 feet downstream nearest  
 disturbance and 150 feet upstream nearest  
 disturbance (2002 test protocol)

Test Year	Exhaust Flow (scfm)	Exhaust Temp. (F)	Moisture (%)
2002	31,000	587	17
2001	31,000	402	14
2000	36,000	372	12
1999	24,000	434	11
1998	30,000	602	16
Average	30,400	479	14

Boilers

Stack Height 126 feet, Title V  
 Stack Diameter 67 inches, 2002 stack test  
 5.58 feet  
 Location of sampling ports four 90 degrees opposed sampling ports  
 test ports located 30 feet downstream nearest  
 disturbance and 12 feet upstream nearest  
 disturbance (2002 test protocol)

Test Year	Exhaust Flow (scfm)	Exhaust Temp. (F)	Moisture (%)
2002	29,000	491	20
2001	26,200	483	22
2000	26,500	490	23
1999	22,000	476	21
1998	20,400	523	20
Average	24,820	493	21

Pushing Baghouse

Stack Height 68 feet, Title V  
Stack Diameter 72 inches, 2002 stack test  
6.00 feet  
Location of sampling ports two 90 degrees opposed sampling ports  
test ports located 47 feet downstream nearest  
disturbance and 10 feet upstream nearest  
disturbance (2002 test protocol)

Test Year	Exhaust Flow (scfm)	Exhaust Temp. (F)	Moisture (%)
2002	132,000	89	3
2001	127,000	79	1
2000	96,000	110	3
1999	114,000	86	2
1998	112,000	112	3
Average	116,200	95	2

Flare Stacks

Refer to Title V Application

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**ATTACHMENT 3**



**KOPPERS  
INDUSTRIES**Koppers Industries, Inc.  
Monessen Coke Plant  
345 Donner Avenue  
Monessen, PA 15062

Telephone: (724) 684-1000

**CERTIFIED MAIL #7099 3400 0016 7568 7961**

January 21, 2003

City of Monessen  
Mr. John T. DeLuca, Mayor and Director of Public Affairs  
100 Third Street  
Monessen, PA15062**RE: Koppers Industries, Inc.  
Monessen Coke Plant  
Notification of Submittal of a Plan Approval Application to PADEP**

Dear Mayor DeLuca:

In accordance with 25 PA Code § 127.43a, Koppers Industries, Inc. (KII), is providing formal notice of the submittal of a *Plan Approval to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device (Permit Application)* for the Monessen Coke Plant, located in Monessen, Pennsylvania. The permit application is being submitted to renew the Reasonably Available Control Technology (RACT) permit (65-000-853), which expires on March 20, 2003. The application will also request revisions to certain emission limitations contained in the RACT permit. The requested emission limitations are based on stack testing and updated emission factors.

KII plans to submit the application on January 31, 2003 to the Pennsylvania Department of Environmental Protection (PA DEP), Southwest Regional Office. A copy of the application can be obtained from the Southwest Regional Office for review and comment. There is a 30-day comment period, which begins after receiving this notification or after submission of the permit application to PA DEP, whichever comes later.

If you have any questions or desire further clarification, please do not hesitate to call the undersigned at (724) 684-1009.

Sincerely,

  
Gregory Shamitko  
Manager, Environmental Affairs

OFFICIAL FILE COPY

<p><b>SENDER: COMPLETE THIS SECTION</b></p> <ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul> <p>1. Article Addressed to:</p> <p>City of Monessen Mr. J.T. DeLuca, Mayor 100 Third St Monessen, PA 15062</p>	<p><b>COMPLETE THIS SECTION ON DELIVERY</b></p> <p>A. Received by (Please Print Clearly) <u>CATHY CARROTO</u></p> <p>B. Date of Delivery <u>1-23-03</u></p> <p>C. Signature <u>X Cathy Carroto</u> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type  <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail  <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
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2. Article Number (Copy from service label)  
7099 3400 0016 7568 7961

PS Form 3811, July 1999

Domestic Return Receipt

X02595-99-M-1788

**U.S. Postal Service**  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

MONESSEN PA 15062

Postage	\$ <u>1.37</u>	0271 04 Postmark Here  01/22/2003
Certified Fee	\$ <u>2.30</u>	
Return Receipt Fee (Endorsement Required)	\$ <u>1.75</u>	
Restricted Delivery Fee (Endorsement Required)	\$ <u>0.00</u>	
<b>Total Postage &amp; Fees</b>	<b>\$ <u>4.42</u></b>	

7099 3400 0016 7568 7961

Recipient's Name (Please Print Clearly) (to be completed by mailer)  
Mr. J.T. DeLuca, Mayor - City of Monessen

Street, Apt. No., PO Box No.  
100 Third St

City, State, ZIP+4  
Monessen, PA 15062

PS Form 3811, February 2002

**KOPPERS  
INDUSTRIES**Koppers Industries, Inc.  
Monessen Coke Plant  
345 Donner Avenue  
Monessen, PA 15062

Telephone: (724) 684-1000

OFFICIAL FILE COPY

January 21, 2003

**CERTIFIED MAIL # 7099 3400 0016 7568 7947**Mr. Tom Bayla, Chairman  
Westmoreland County Board of Commissioners  
2 North Main Street  
Courthouse Square  
Greensburg, PA 15601**RE: Koppers Industries, Inc.  
Monessen Coke Plant  
Notification of Submittal of a Plan Approval Application to PADEP**

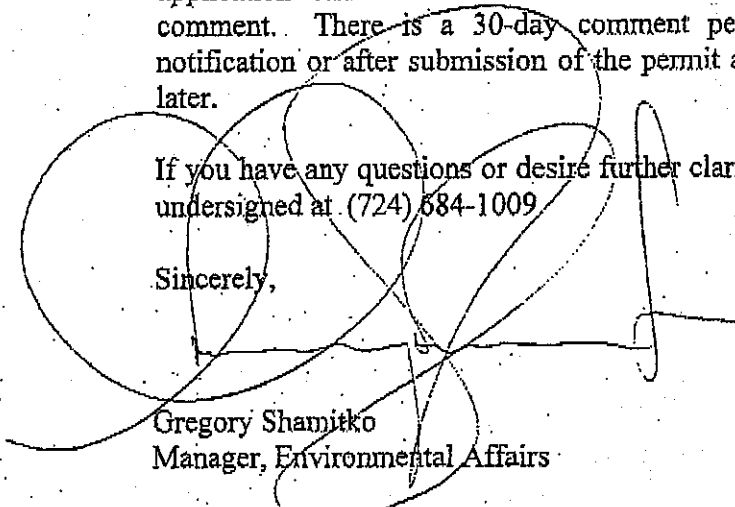
Dear Commissioner Bayla:

In accordance with 25 PA Code § 127.43a, Koppers Industries, Inc. (KII), is providing formal notice of the submittal of a *Plan Approval to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air-Cleaning Device (Permit Application)* for the Monessen Coke Plant, located in Monessen, Pennsylvania. The permit application is being submitted to renew the Reasonably Available Control Technology (RACT) permit (65-000-853), which expires on March 20, 2003. The application will also request revisions to certain emission limitations contained in the RACT permit. The requested emission limitations are based on stack testing and updated emission factors.

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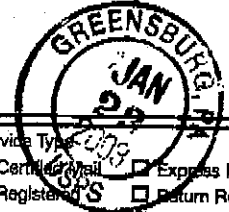
If you have any questions or desire further clarification, please do not hesitate to call the undersigned at (724) 684-1009.

Sincerely,

  
Gregory Shamitko  
Manager, Environmental Affairs

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SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>		A. Received by (Please Print Clearly)	B. Date of Delivery
1. Article Addressed to:		C. Signature	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
Tom Bayla, Chairman Westmoreland Cty Board of Commissioners North Main St Courthouse Square Greensburg, PA 15601		D. Is delivery address different from item 1? If YES, enter delivery address below:	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Article Number (Copy from service label) 7099 3400 0016 7568 7947		3. Service Type: <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
PS Form 3811, July 1999		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	



U.S. Postal Service		
CERTIFIED MAIL RECEIPT		
(Domestic Mail Only; No Insurance Coverage Provided)		
GREENSBURG PA 15601		
Postage	\$ 40.37	0271 54 Postmark Mark  01/22/2003
Certified Fee	\$2.30	
Return Receipt Fee (Endorsement Required)	\$1.75	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$44.42	
Recipient's Name (Please Print Clearly) (to be completed by mailer) Mr Tom Bayla, Chairman Westmoreland Cty Bd of Commissioners 2 North Main St Greensburg, PA 15601		

7099 3400 0016 7568 7947

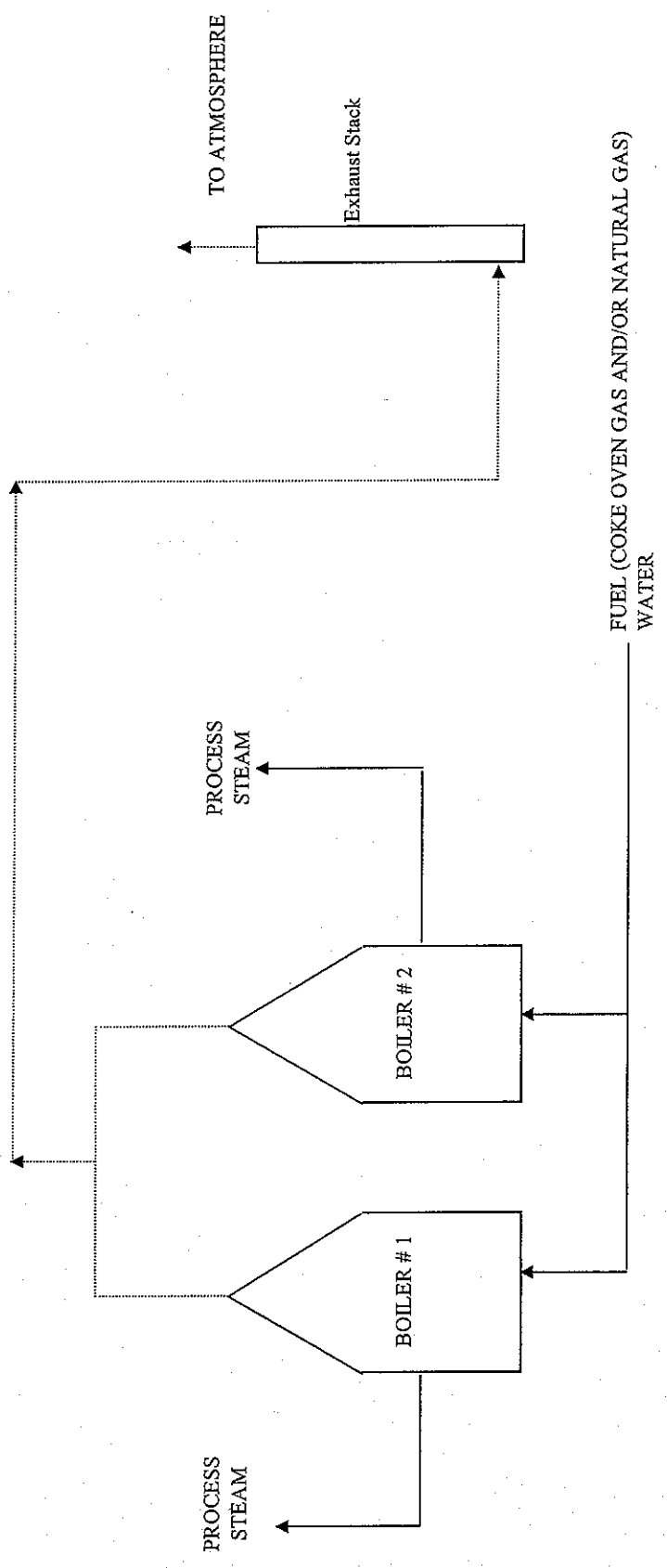
PS Form 3800, February 2000

See Reverse for Instructions

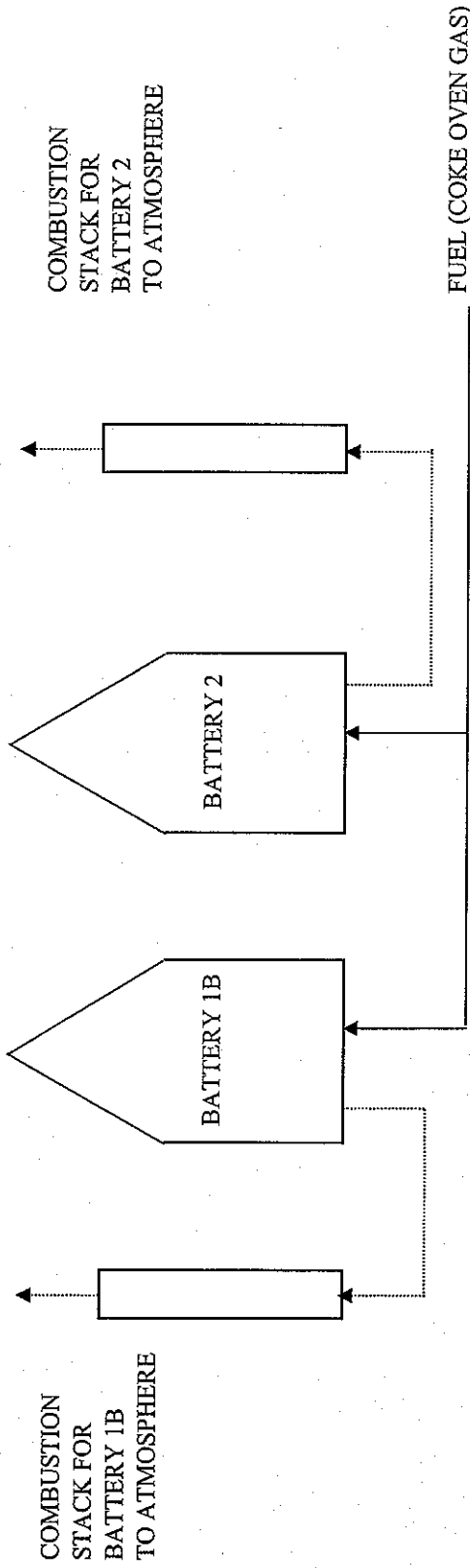
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**FIGURES**

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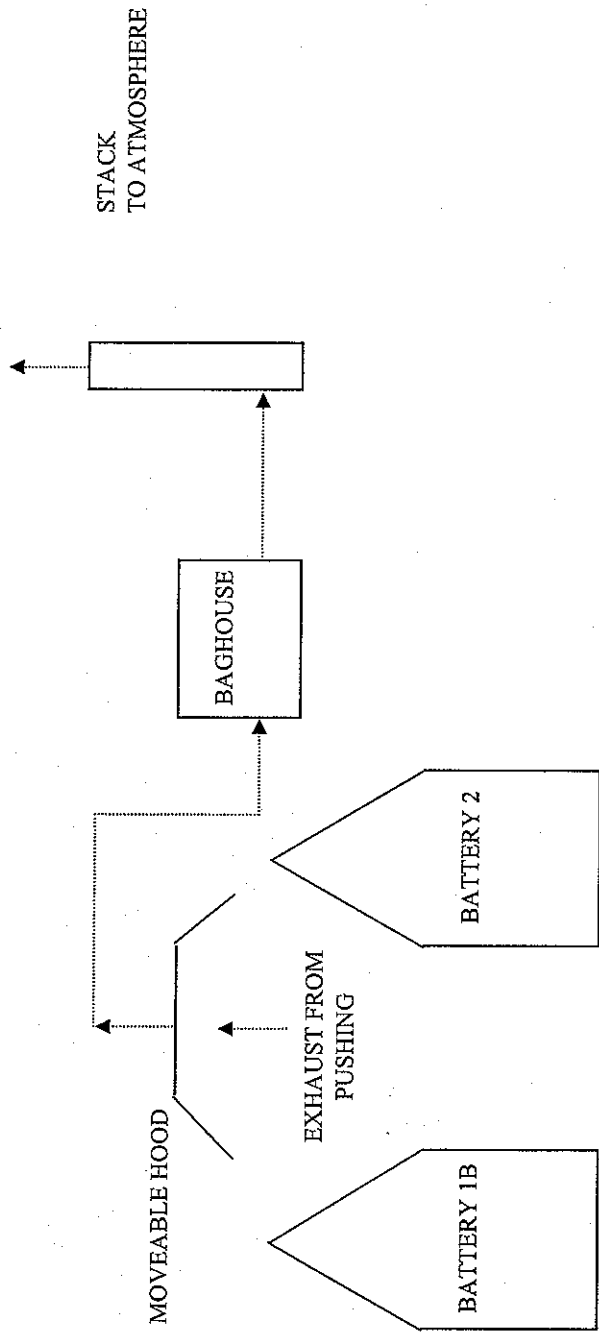


Process Flow Diagram - Boiler 1 and 2  
Koppers Industries, Inc., Monessen Coke Plant,  
Monessen, Pennsylvania



Process Flow Diagram - Battery 1b and 2 Combustion Stacks  
 Koppers Industries, Inc., Monessen Coke Plant,  
 Monessen, Pennsylvania

Figure 2



AT THE END OF A COKING CYCLE, DOORS AT BOTH ENDS OF THE COKE OVEN ARE REMOVED AND THE COKE IS PUSHED FROM THE OVEN BY A RAM THAT IS EXTENDED FROM A PUSHER MACHINE. THE COKE IS THEN PUSHED INTO A QUENCH CAR, WHICH CARRIES THE COKE TO THE QUENCH TOWER.



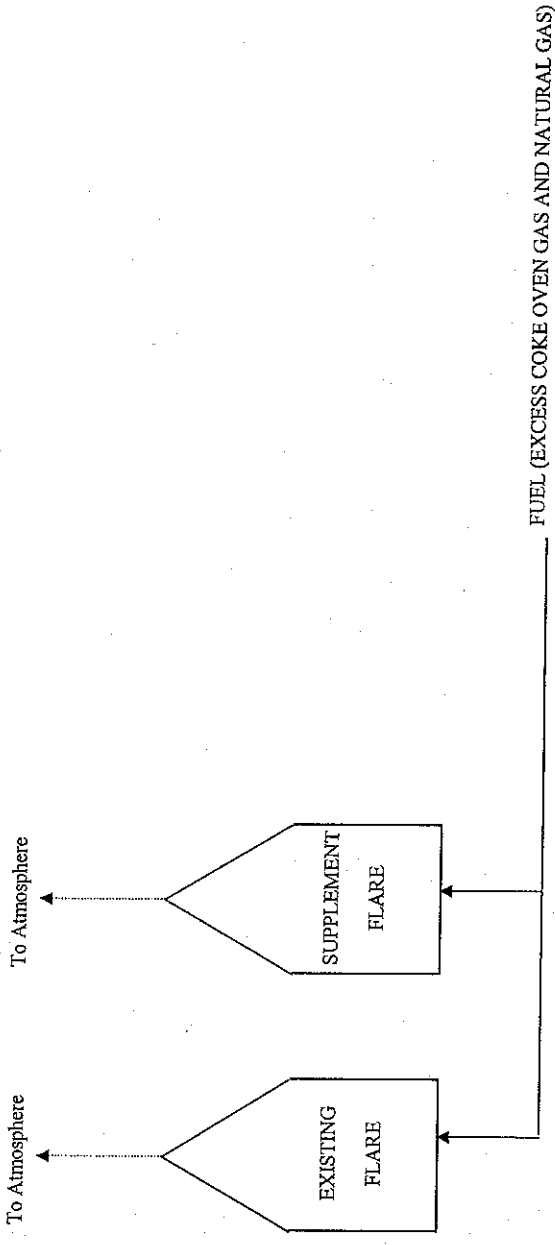


Figure 4

Process Flow Diagram - Flares  
 Koppers Industries, Inc., Monessen Coke Plant,  
 Monessen, Pennsylvania