			3077
Facility Name: <u>Wash</u>	ngton Middle School	CCB Tonnage R	deport – 2008
report, "you" shall here 26.04.10.08 requires	ist provide the informatio einafter refer to the genera	t the definition of a general n as required below. For the tor defined above. Please no ubmit an annual report to enerated the previous year.	e purposes of this
III. Required Information March 1, 2009:	tion. The following inform	nation must be provided to th	e Department by
A. Contact information	:		
Facility Name: Washin	gton Middle School		
Name of Permit Holder			
Facility Address: 200 N			
Facility Address: Cumb	erland	MD State	21502 Zip
County: Allegany			
Contact Information (Pe	rson filing report or Enviro	nmental Manager)	
Facility Telephone No.:	301-722-4968	Facility Fax No.: 301-722-4	4985
Contact Name: Larry La	ıncaster		
Contact Title: Superviso	r of Operations		
Contact Address: 211 M	Street Street		
Contact Address: <u>Cumb</u>	erland	MD	21502

For questions on how to complete this form, please call Mr. Tariq Masood, Head of the Office of Reports and Data Management, Solid Waste Program at 410-537-3326.

Contact Telephone No.: <u>301-722-4968</u> Contact Fax No.: <u>301-722-4985</u>

State

Form Number: MDE/WAS/PER.033

City

Contact Email: <u>larry.lancaster@acps.k12.md.us</u>

Date: January 16, 2009 TTY Users: 800-735-2258

Facility Nar	ne: <u>Washington Middle S</u>	<u>chool</u>	CCB Tonnage Report – 2008
type of coar	ption of the process that gen or other raw material that g insufficient, please attach ac	enerates the coal con	ustion byproducts, including the abustion byproducts. If the space
Two (2) sto	oker coal boilers, firing bitu	ninous coal, are used	to provide hot water for building
in subsequer year.) If the	nt years you need only provi	nd the volume of eac de the information in ont, please attach addi	ification of the different types of h type generated. (Please note that this paragraph for the last calendar tional pages in a similar format:
Reporting	Volume of CCB Type:	Volume of CCB Ty	vpe: Volume of CCB Type:
Year	Bottom Ash (ft ³)	N/A	
2008	1,470.31	IV/A	N/A
2007	1,635.22		
2006	805.25		· · · · · · · · · · · · · · · · · · ·
2005	1,643.48		
2004	2,486.71		
Additional no	of CCDs consented for all		

The volumes of CCBs generated from this facility were estimated using the quantities of coal used by the facility and the ash values from the corresponding testing reports.

Form Number: MDE/WAS/PER.033 Date: January 16, 2009 TTY Users: 800-735-2258

Facility Name:	Washington Middle School	CCB Tonnage Report – 2008
Combustion byp.	s of any modeling or risk assessments, roducts or their use, that were perform Please attach this information to the re	or both, conducted relating to the coal ned by you or your company during the eport.
E. Copies of all byproducts. Plea	laboratory reports of all chemical cha ase attach this information to the repo	racterizations of the coal combustion rt.
coar combustion	nnual Report you submit, a description byproducts in the last 5 calendar year the information in this paragraph for	on of how you disposed of or used your so (Please note that in subsequent years you the last calendar year), identifying:
tran described in	ypes and volume of coal combustion by Paragraph C above), the location of coal combustion byproduc	byproducts disposed of or used (if different disposal, mine reclamation and use sites, ts disposed of or used at each site:
The coal combus	stion byproducts (CCBs) generated by	this facility are listed in Table I.
The CCBs generated Coal Company be to this site are list	tending yard located near Lonaconing	ye years were transported to the Phillips g, MD. The volumes of CCBs transported
and (b) The diffe	rent uses by type and volume of coal	combustion byproducts:
If the space provi note that in subse calendar year).	ded is insufficient, please attach addit quent years you need only provide the	ional pages in a similar format (Please information in Section F for the last

Form Number: MDE/WAS/PER.033 Date: January 16, 2009 TTY Users: 800-735-2258

Facility Name:	Washington Middle School	CCB Tonnage	Report – 2008			
G. A description 5 years, identifyin	of how you intend to dispose g:	of or use coal combustion bypi	roducts in the next			
used, the location	of intended disposal, mine re-	nstion byproducts intended to be clamation and use sites, and the isposed of or used at each site:	e disposed of or type and volume			
generate approxim	Based on the past five calendars years of data, it is estimated that this facility will continue to generate approximately 1,600 ft ³ of coal combustion products (CCBs) each year for the next five years. The CCB's generated at the facility are classified as bottom ash.					
All CCB's from the Garrett County Ma	is facility will be transported aryland, or to the Waste Mana	to a CCB mine reclamation sit agement Mountain View landfi	e in Allegany or II.			
		nd volume of coal combustion	byproducts.			
Bottom Ash – App	roximately 0 ft ³ to 1,600 ft ³ p	er year - Mine Reclamation				
Bottom Ash – App	roximately 0 ft ³ to 1,600 ft ³ p	er year – Landfill Facility				
If the space provide	ed is insufficient please attac	h additional pages in a similar i				
and space provide	ra is insufficient, prease attac	n additional pages in a similar i	format.			
IV. Signature and report, and certify a report:	Certification. An authorized s to the accuracy and comple	d official of the generator must teness of the information conta	sign the annual ined in the annual			
This is to certify the	it, to the best of my knowleds	ge, the information contained in	this report and			
any attached docum	ents are true, accurate, and co	omplete.	_			
1	2 Larry Lancaster.	Supervisor of Operations				
Sary Signature	asto	<u>301</u> -722-4968	2/33/09			
Signature	Name, Title, & T	elephone No. (Print or Type)	Date			
	larry.lancast	er@acps.k12.md.us				
	You	r Email Address				

Form Number: MDE/WAS/PER.033 Date: January 16, 2009 TTY Users: 800-735-2258

PHILLIPS COAL CO.

11 Front Street
Lonaconing, Maryland 21539
Phones

Office: 301-463-2066 Home: 301-463-5326

July 21, 2008

Coal Bids Larry Lancaster, Supervisor of Operations 211 Market Street (Rear) P.O. Box 1724 Cumberland, M.D. 21501-1724

COAL HILL	MAINING	-		(1) The state of t			
				ESSR	OC-MARTINSB	URG & FREDE	RICK WK OF 6-9-08
Date:	Moist.	Ash	Vol.	Sulfur	BTU	Coke	Lbs. Sul.
6/6/2008	4,44	22.46		3.73	. 11209	. 8.5	3.33
	Dry	23.50		3.90	11730	,	
# <u>3087 -</u> (<u>.</u>				16333	Other:	
TRI-STAR MI	NING			#3 FRA	NKLIN (RAW)		
Date:	Moist.	Ash	Vol.	Sulfur		Coker	the Oak
6/6/2008	2.64	13.09		1.46	12957	9	Lbs. Sul.
	Dry	13.46		1.50	13308	. 3	1.12
# <u>3088 -</u> C	:				15376	Other:	
TRI-STAR MI	NING			WAVNE			
Date:	Moist.	Ash	Vol.	Sulfur	SBURG (RAV) BTU		4.
6/6/2008	17.37	12.79	V 01.	0.67	9354	Coke	Lbs. Sul.
	, Dry	15.47				0.5	0.72
	-	13.47		0.81	11321		
# 3089 <u>-</u> C					13394	Other:	
TRI-STAR MI	VING.			REDST	ONE (RAW) JC		THE THE PART END AND THE
Date:	Moist.	Ash	Vol.	Sulfur	BTU	Coke	i han And
6/6/2008	3.17	17.15		7.11	12089	9 9	Lbs. Sul.
	Dry	17.71		7.34	•	<i>ਤ</i>	5.88
"	•	11.11		134	12484		
# 3090 <u>- C</u>					15171	Other:	<i>F</i>
TRI-STAR MIN		-	#4	FRAN	VKLIN (RAW)(F	PIT) JOB #434	
Date:	Moist.	Ash	Vol. /	Sulfur	BTU	Coke	Lbs. Sul.
6/6/2008	2.49	10.97		2.61	" " 13483 ·	9	1.94
	Dry -	11.24		2.68	13827		1:8.4
#_ 3091 <u>-</u> C					45576	Other:	
		***		and they seek some		Outel.	

2- = 3 SLAK
1/2- = 3
1- CROP

CORPORATE RESEARCH & DEVELOPMENT SCHENECTADY, N. Y. 12305



No. 491

BITUMINOUS CDAL DUST

A	· · · · · · · · · · · · · · · · · · ·				Date
SECTION I.	MATERIAL	IDENTIFICATION			<u> </u>
structures was a "coal n	Includes co tile matter" <75 µm (th Coal consist with hetrocy molecule".	cles containing	ites and anthraci value" >10,500 B), dispersable in poly(aromatic/uns O,N, and S. C 102 ^H g processes with	78 ⁰ 10 ^N 2 h	"fixed carbon" e ASTM D388 & D3172). of primary saturated) ring as been suggested
SECTION II.	INGREDIEN	ITS AND HAZARD	S		HAZARD DATA
1		ome air-dried bi			<u> </u>
Source	"Moisture"	"Volatiles"	"Fixed Carbon"	"Ash"	$\frac{\text{ACGIH TLV}}{\text{8-hr TWA 2 mg/m}}^3 \text{ or}$
West Virginia Pennsylvania Illinois Wyoming	1.8 .1.2 8.4 11.0	20.4 34.5 35.0 38.6	72.4 58.4 48.2 40.2	5.4 5.9 8.4 10.2	OSHA PEL 2.4 mg/m ³ Respirable dust with <5% quartz*
*Respirable du	(0.9-1.5%), st is partic S #71) if gu	depending on so ulate <5 \mu in s artz content is	ize. Use quartz	5)	
		N/A	Specific gravit		- 1.3-1.6
water solubility	_у	Negligible		C	Negligible
SECTION IV.	FIRE AND E	XPLOSION DATA			
Flash Point a	nd Method	Autoignition Ten	np. Flammability		
(avoid raising irefighters sho	g dust). It ould have se	is a fire and ex lf-contained bre	ide, steam, water, wet down coal dust splosion hazard wh eathing equipment	, ammoniu t to help nen expose and prote	m biphosphate powder prevent ignition
SECTION A' KI	FACITALLA	DATA	•		
a slow heat buthis ignition and pyrolysis. with O2, CO2.	of dry coal. When these and water va	spontaneous igni) On heating com burn, they can por to produce can include exide	al releases combus	ygen from s with go Humid air stibles b arbon; ho	the air, very od heat retention can accelerate

this material is incompatible with strong oxidizing agents, especially when heated.

SECTION VI. HEALTH HAZARD INFORMATION

Coal workers pneumoconiosis (CWP) can occur after years of excessive exposure to respirable coal dust in the mining, handling and processing of coal. Respirable quartz particulate can be simultaneously present with the coal, especially in the mine. In general, coal dust is deposited in the lungs like quartz but requires over 10% as much for adverse effects. It does not kill macrophages; reticulin fibers form, but little collagen is generated. (That which forms is often attributed to quartz.)

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pronchogenic cancer.
Chronic bronchitis and emphysema are reported to result from excessive coal dust inhalation. Persons having rheumatoid arthritis in conjunction with simple CWP may have rapidly developing lung damage. (Caplan's Syndrome).

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Romove ignition sources. Clean-up personnel may need dust repirators and eye protection. Coal dust should be cleaned up in manner that avoids dispersing particulate in air

Collect dust in a covered metal container for use as fuel or for disposal. DISPOSAL: Use as fuel in a pulverized coal-burning furnace, or burn as slurry in water For other incineration, possible dust explosions or "puffs" and high temperature need nd be considered. Scrap coal dust may be wet down thoroughly with water in a container and buried in landfill. Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide explosion-proof general and local exhaust ventilation to meet TLV requirements. Ameroved filtration of exhausted air may be required to prevent excessive environmen-

Whene airborne dust is excessive in the workplace, dust respirators and eye protection

Is working with coal dust, use good personal hygiene. Wear regularly cleaned work clathing. Showering and changing into street clothing after work may be desirable. Follow good housekeeping procedures to control coal dust build up. Collect dust from mettling areas and surfaces in a manner to avoid generating airborne dust. Design dust amoression measures into processes. Meet explosion-proof code requirements for electrical services where coal dust may be present.

SPECIAL PRECAUTIONS AND COMMENTS SECTION IX.

Kemsources of heat and ignition, flammable materials, and strong oxidizing agents from areas where coal dust may collect. Prevent static sparks. Inerting may be mairable, such as powdered CaCO₃ or rock dust laid down over coal dust on mine floor wa nitrogen enriched atmosphere in a coal pulverizing machine.

L.D. Smoot, et. al., "Pulvurized Coal Power Plant Fires and Explosions" Parts I, II and V, Brigham Young University, Mechanical Engineering Dept., Prepared for Utah Power and Light Co., Salt Lake City, Utah 1979-1981. DARSHURCE(S) CODE:2-4,14,38,43,47

Agrants as to the sullability of information herein for purchaser a purposes ore segments us to me containing or minimization and posturated a purposes ore constraintly purchaser's responsibility. Therefore, although reasonable care has acatokun in the preparation of such information. General Electric Company actions in the perpendiced of their meditional and secured for responsibility and secured or responsibility of such kiloweather for application to purchases? resided purposes or fee consequences of He acid.

APPROVALS: CRD Industrial Hygiene and Safety -MEDICAL REVIEW:

PHILLIPS COAL CO.

11 Front Street
Lonaconing, Maryland 21539
Phones

Office: 301-463-2066 Home: 301-463-5326

July 25, 2007

Coal Bids
Larry Lancaster, Assistant Supervisor of Operations
211 Market Street (Rear)
P.O. Box 1724
Cumberland, M.D. 21501-1724

CERTIFICATE NUMBER 7.02



Tri Star Mining P.O. Box 239 Barton, MD 21521

DATE: 07/07/07 STANDARD NØ 1997-21069-4

SAMPLE ID:

#4 (RAW) JOB #434

OPERATING CO .: Tri Star Mining

CUSTOMER

MINE:

LOCATION:

DATE SAMPLED:

07/06/07

DATE RECEIVED: 07/06/07

WEATHER:

CLOUDY 21.3 KG

GROSS WEIGHT: OTHER ID:

CERTIFICATE OF ANALYSIS

		~	
	ASTM METHOD	7) C) There is a	
MOISTURE	D2961	AS RECEIVED	DRY BASIS
ASH		3.53 %	XXXX
SULFUR	D3174	16.99 %	17.61 %
	D4239 (3.3)	3,73 %	
BTU/LB	D5865	12382	3.87 %
MAF BTU/LB	D3180	-4904	12835
			15578

CORPORATE RESEARCH & DEVELOPMENT SCHENECTADY, N. Y. 12305



491

BITUMINOUS COAL DUST

Date - --SECTION I, MATERIAL IDENTIFICATION MATERIAL NAME: BITUMINOUS COAL DUST CECRIPTION: Includes coals between lignites and anthracites with "fixed carbon" (SCRIPTION: Includes coals between lignites and anthracites with "fixed carbon" (Substitute the coal coal coal coal consists of conjugated poly(aromatic/unsaturated/saturated) ring structures with hetrocycles containing 0,N, and S. Clo2H78 10 N has been suggested as a "coal molecule". DESCRIPTION: SOURCE: Mining, handling, and pulverizing processes with coal. SECTION II. INGREDIENTS AND HAZARDS HAZARD DATA "Proximate Analysis" of some air-dried bituminous coals: ACGIH TLV 8-hr TMA 3 mg/m 3 or "Moisture" "Volatiles" "Fixed Carbon" "Ash" OSHA PEL 2.4 mg/m³ West Virginia 1.8 20.4 72.4 5.4 Pennsylvania .1.2 Respirable dust with 34.5 58.4 5.9 Illinois <5% quartz* 8.4 35.0 48.2 8.4 Wyoming 11.0 38.6 40.2 10.2 Bituminous coals also contain trace metals, sulfur (0.4-3.5) and nitrogen (0.9-1.5%), depending on source and type. *Respirable dust is particulate <5 \(\mu \) in size. Use quartz formula (MSDS #71) if quartz content is >5% SECTION III. PHYSICAL DATA Boiling point -----N/A Specific gravity (H₇O=1) - 1.3-1.6 Vapor pressure at 25 C ----- Negligible Volatiles at 25 C ----Negligible Water solubility -----Negligible ' Appearance & Odor: Black powder; little or no odor. SECTION IV. FIRE AND EXPLOSION DATA LOWER UPPER Flash Point and Method Autoignition Temp. Flammability Limits In Air >0.05* (cloud) >1114 F cloud(10 jm Av.),50mJ spark | Extinguishing Media: Nitrogen, carbon dioxide, steam, water, ammonium biphosphate powder A water spray can be used to cautiously wet down coal dust to help prevent ignition (avoid raising dust). It is a fire and explosion hazard when exposed to heat or flame. Firefighters should have self-contained breathing equipment and protective clothing. ca loz/ft³gives max, flame energy; smallest 20% of particulate determines ignition characteristics; 10-50mJ spark needed at 0-5% moisture, respectively, to initiate combustion in <200 mesh dust, **A pile of 2-7 µm Pittsburgh coal dust heated at 169 C SECTION V. REACTIVITY DATA Coal dust is fairly stable at 25 C, but it can react with oxygen from the air, very slowly at room temperature and faster when heated. In piles with good heat retention a slow heat build-up and spontaneous ignition can occur. (Humid air can accelerate this ignition of dry coal.) On heating coal releases combustibles by devolatization and pyrolysis. When these burn, they can heat the solid carbon; hot carbon reacts with O2, CO2, and water vapor to produce combustible gases. Oxidation products of coal can include oxides of carbon, nitrogen and sulfur, partially

rhis material is incompatible with strong oxidizing agents, especially when heated.

oxidized hydrocarbons, soot and fly ash.

HEALTH HAZARD INFORMATION SECTION VI.

Coal workers pneumoconiosis (CWP) can occur after years of excessive exposure to respirable coal dust in the mining, handling and processing of coal. Respirable quartz particulate can be simultaneously present with the coal, especially in the mine. In general, coal dust is deposited in the lungs like quartz but requires over 10% as much for adverse effects. It does not kill macrophages; reticulin fibers form, but little collagen is generated. (That which forms is often attributed to quartz.)

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Chronic bronchitis and emphysema are reported to result from excessive coal dust inhalation. Persons having rheumatoid arthritis in conjunction with simple CWP may have rapidly developing lung damage. (Caplan's Syndrome).

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Remove ignition sources. Clean-up personnel may need dust repirators and eye protection. Coal dust should be cleaned up in manner that avoids dispersing particulate in air

Collect dust in a covered metal container for use as fuel or for disposal.

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Provide explosion-proof general and local exhaust ventilation to meet TLV requirements. Ameroved filtration of exhausted air may be required to prevent excessive environmen-

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In working with coal dust, use good personal hygiene. Wear regularly cleaned work chathing. Showering and changing into street clothing after work may be desirable.

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L.D. Smoot, et. al., "Pulvurized Coal Power Plant Fires and Explosions" Remance: Parts I, II and V, Brigham Young University, Mechanical Engineering Dept., Prepared for Utah Power and Light Co., Salt Lake City, Utah 1979-1981. DOTHASSIFICATION: FLAMMABLE SOLID DAMENURCE(S) CODE:2-4,14,38,43,47

beginners as to the suitability of information herein for purchaser's purposes are executify perchaser's responsibility. Therefore, although responsible care has been taken in the proporation of such information. General Electric Company eastha accuracy or suitability of such information for application to prechaer's establed personal or for consucuontos of its use.

The state of the s	The state of the s
APPROVALS: MIS	J.M. niew.
Industrial Hygiene	
and Safety	JW 5-15-82
MEDICAL REVIEW:	29 May 1982

PHILLIPS COAL CO.

11 Front Street Lonaconing, Maryland 21539

Phones _____ Office 301-463-2066 Home 301-463-5326

August 12, 2006

Coal Bids
Supervisor of Plant Operations
211 Market Street (Rear)
P.O. Box 1724
Cumberland, M.D. 21501-1724

TRI-STAR DATE 08-11-06 #6323-C	MINING - MOIST. 2.23 DRY:	#4 FRANKI ASH 16.20 16.57	VOL. 0.00 0.00		BTU 12430 12714 15239	coke	LBS.SUL.
TRI-STAR DATE 08-11-06 #6324-C	MINING - MOIST. 2.03 DRY:	#3 FRANKI ASH 10.82 11.04	VOL. O.OO	434 SULFUR 1.39 1.42	BTU 13532 13813 15527	COKE 9	LBS.SUL.

CORPORATE RESEARCH & DEVELOPMENT SCHENECTADY, N. Y. 12305

SECTION V. REACTIVITY DATA

oxidized hydrocarbons, soot and fly ash.



491 No.

> BITUMINOUS COAL DUST

Date -SECTION I. MATERIAL IDENTIFICATION MATERIAL NAME: BITUMINOUS COAL DUST MATERIAL NAME: BITUMINOUS COAL DUST

DESCRIPTION: Includes coals between lignites and anthracites with "fixed carbon"

<U6%, "volatile matter" >14% "calorific value" >10,500 BTU/lb (see ASTM D388 & D3172).

Particulate <75 µm (thru No. 200 sieve), dispersable in air, is of primary interest. Coal consists of conjugated poly(aromatic/unsaturated/saturated) ring structures with hetrocycles containing O,N, and S. Cloud T80 lo N has been suggested as a "coal molecule". as a "coal molecule". SOURCE: Mining, handling, and pulverizing processes with coal. SECTION II. INGREDIENTS AND HAZARDS HAZARD DATA "Proximate Analysis" of some air-dried bituminous coals: 8-hr TWA 2 mg/m or "Moisture" "Fixed Carbon" Source "Volatiles" "Ash" OSHA PEL 2.4 mg/m³ West Virginia 1.8 20.4 72.4 5.4 Respirable dust with Pennsylvania .1.2 34.5 58.4 5.9 <5% quartz* Illinois 8.4 35.0 48.2 8.4 Wyoming 11.0 38.6 40.2 -10.2 Bituminous coals also contain trace metals, sulfur (0.4-3.5) and nitrogen (0.9-1.5%), depending on source and type. *Respirable dust is particulate <5 \mu in size. Use quartz formula (MSDS #71) if quartz content is >5% SECTION III. PHYSICAL DATA Boiling point ----- N/A Specific gravity (H2O=1) - 1.3-1.6 Vapor pressure at 25 C ----- Negligible Volatiles at 25 C $\frac{2}{2}$ Negligible Water solubility ----- Negligible Appearance & Odor: Black powder; little or no odor. SECTION IV. FIRE AND EXPLOSION DATA LOWER Flash Point and Method Autoignition Temp. Flammability Limits In Air >0.05* cloud >1114 F cloud(10 jim Av.),50mJ spark Extinguishing Media: Nitrogen, carbon dioxide, steam, water, ammonium biphosphate powder A water spray can be used to cautiously wet down coal dust to help prevent ignition (avoid raising dust). It is a fire and explosion hazard when exposed to heat or flame. Firefighters should have self-contained breathing equipment and protective clothing. Ca l oz/ft³gives max. flame energy; smallest 20% of particulate determines ignition characteristics; 10-50mJ spark needed at 0-5% moisture, respectively, to initiate combustion in <200 mesh dust, **A pile of 2-7 \mathrm{Jm} Pittsburgh coal dust heated at 169 C

This material is incompatible with strong oxidizing agents, especially when heated. ACUENAL . A CICATOLA

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DATESURCE(S) CODE:2-4,14,38,43,47

segments as to the sulfability of information herein for purchaser's purposes are executive purchaser's responsibility. Therefore, although reasonable care has exesting perchaser's responsibility, institute, annough reasonable rate has been taken in the proparation of each information, General Electric Company exacts no worranties, makes no copresentations and assumes no responsibility assating workings, makes a superior billion for application to purchasors entited purposes to for tensequential of its use.

APPROVALS: Industrial Hygiene and Safety MEDICAL REVIEW:

FY2065-66

PHILLIPS COAL CO.
11 Front Street
Lonaconing, Maryland 21539
Phones
Office 301-463-2066
Home 301-463-5326

August 8, 2005

Coals Bids Supervisor of Plant Operations 211 Market Street (Rear) P.O. Box 1724 Cumberland, M.D. 21501-1724

APPROVED BY __

GOULD ENERGY DIVISION 11600 MEXICO FARMS RD. SE CUMBERLAND, MD 21502

DATE: 07/16/05

STANDARD NO 1997-15411-1

TRI-STAR MINING, INC. P.O. BOX 339 BARTON, MD 21521

SAMPLE ID: AES PITT

OPERATING CO.: TRI-STAR MINING, INC.

SAMPLED BY:

CUSTOMER

MINE:

LOCATION:

BARTON MD

DATE SAMPLED: 07/16/05

DATE RECEIVED: 07/16/05

WEATHER:

GROSS WEIGHT: 19.52 KG

CLEAR

OTHER ID:

CERTIFICATE OF ANALYSIS

			·
		AS RECEIVED	DRY BASIS
MOISTURE	D2961	5.40 %	xxxx
ASH ·	D3174	12.83 %	13.56 %
SULFUR	D4239 (3.3)	2.35 %	2.48 %
BTU/LB	D5865	12738	13465
MAF BTU/LB	D3180		15577

FY 2064-05

PHILLIPS COAL CO.

11 Front Street Lonaconing, Maryland 21539

> Phones _____ Office 301-463-2066 Home 301-463-5326

August 13.2004

Coal Bids Supervisor of Plant Operations 211 Market St. (Rear) P.O. Box 1724 Cumberland, M.D. 21501-1724

110.5

144

GOULD ENERGY DIVISION 11600 MEXICO FARMS RD. SE CUMBERLAND, MD 21502

TRI-STAR MINING, INC.

P.O. BOX 339

BARTON, MD 21521

SAMPLE ID: AES RAW

DATE: 07/14/04 STANDARD NO 1997-14273-1 46.5

DATE RECEIVED: 07/14/04

OPERATING CO.:

TRI-STAR MINING, INC.

SAMPLED BY:

CUSTOMER

MINE: LOCATION:

BARTON, MC.

DATE SAMPLED:

07/13/04

WEATHER:

SUNNY

GROSS WEIGHT:

17.66 KG

OTHER ID:

CERTIFICATE OF ANALYSIS

	• • • • • • • • • • • • • • • • • • • •			_
•		AS RECEIVED	DRY BASIS	
MOISTURE	D2961	1.55 %	XXXX	
ASH	D3174	13.95 %	14.17 %	
SULFUR	D4239 (3.3)	2.86 %	2.91 %	
8TU/LB	01989	13178	13385	
MAF BTU/LB	D3180		15595	

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305



10. 491

BETUMINOUS COAL DUST ٠.٠.

Date ~ SECTION I. MATERIAL IDENTIFICATION MATERIAL NAME: BITUMINOUS COAL DUST MATERIAL NAME: BITUMINOUS COAL DUST

DESCRIPTION: Includes coals between lignites and anthracites with "fixed carbon"

<U68, "volatile matter" >14% "calorific value" >10,500 BTU/1b (see ASTM D388 & D3172).

Particulate <75 µm (thru No. 200 sieve), dispersable in air, is of primary

interest. Coal consists of conjugated poly(aromatic/unsaturated/saturated) ring

structures with hetrocycles containing 0,N, and S. C 102 H 78 10 N 2 has been suggested SOURCE: Mining, handling, and pulverizing processes with coal. SECTION II. INGREDIENTS AND HAZARDS HAZARD DATA "Proximate Analysis" of some air-dried bituminous coals: 8-hr $\frac{ACGIH}{TWA} \frac{TLV}{2}$ mg/m³ or "Moisture" "Volatiles" Source "Fixed Carbon" "Ash" OSHA PEL 2.4 mg/m³ West Virginia 1.8 20.4 72.4 5.4 Respirable dust with Pennsylvania .1.2 34.5 58.4 5.9 Illinois <5% quartz* 8.4 35.0 48.2 8.4 Wyoming 11.0 38.6 40.2 10.2 Bituminous coals also contain trace metals, sulfur (0.4-3.5) and nitrogen (0.9-1.5%), depending on source and type. *Respirable dust is particulate <5 \mu m in size. Use quartz formula (MSDS #71) if quartz content is >5% SECTION III. PHYSICAL DATA Boiling point ----- N/A Specific gravity ($H_7O=1$) - 1.3-1.6 Vapor pressure at 25 C ----- Negligible Volatiles at 25 C ----Water solubility ----- Negligible Appearance & Odor: Black powder; little or no odor. SECTION IV. FIRE AND EXPLOSION DATA LOWER UPPER Flash Point and Method Autoignition Temp. Flammability Limits In Air >0.05* (cloud) 31114 F cloud(10 jm Av.),50mJ spark 1 oz/ft Extinguishing Media: Nitrogen, carbon dioxide, steam, water, ammonium biphosphate powder

A water spray can be used to cautiously wet down coal dust to help prevent ignition (avoid raising dust). It is a fire and explosion hazard when exposed to heat or flame. Firefighters should have self-contained breathing equipment and protective clothing.

*Ca l oz/ft³gives max, flame energy; smallest 20% of particulate determines ignition characteristics; 10-50mJ spark needed at 0-5% moisture, respectively, to initiate combustion in <200 mesh dust, **A pile of 2-7 lm Pittsburgh coal dust heated at 169 C

SECTION V. REACTIVITY DATA

Coal dust is fairly stable at 25 C, but it can react with oxygen from the air, very slowly at room temperature and faster when heated. In piles with good heat retention a slow heat build-up and spontaneous ignition can occur. (Humid air can accelerate this ignition of dry coal.) On heating coal releases combustibles by devolatization and pyrolysis. When these burn, they can heat the solid carbon; hot carbon reacts with O2, CO2, and water vapor to produce combustible gases.

Oxidation products of coal can include oxides of carbon, nitrogen and sulfur, partially oxidized hydrocarbons, soot and fly ash.

this material is incompatible with strong oxidizing agents, especially when heated.

HEALTH HAZARD INFORMATION SECTION VI.

TLV

Coal workers pneumoconiosis (CWP) can occur after years of excessive exposure to respirable coal dust in the mining, handling and processing of coal. Respirable quartz particulate can be simultaneously present with the coal, especially in the mine. In general, coal dust is deposited in the lungs like quartz but requires over 10x as much for adverse effects. It does not kill macrophages; reticulin fibers form, but little collagen is generated. (That which forms is often attributed to quartz.)

The severity of CWP is directly related to the amount of coal dust in the lungs. In many does not progress beyond the simple stage, which is detectable by years as reports.

CWP does not progress beyond the simple stage, which is detectable by x-ray as round and irregular "coal macules" of 1-5 mm diameter, but which does not change lung function or shorten life. CWP is a precursor of progressive massive fibrosis (PMF) resulting in large masses of fibrous tissue development (mechanisms unclear). PMF impairs pulmonary function and shortens life. There is no evidence of association of CWP and

pulmonary function and shortens life. There is no evidence of association of two and bronchogenic cancer.

Chronic bronchitis and emphysema are reported to result from excessive coal dust inhalation. Persons having rheumatoid arthritis in conjunction with simple CWP may have rapidly developing lung damage. (Caplan's Syndrome).

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES .

Resove ignition sources. Clean-up personnel may need dust repirators and eye protection. Coal dust should be cleaned up in manner that avoids dispersing particulate in air

Collect dust in a covered metal container for use as fuel or for disposal.

DISPISAL: Use as fuel in a pulverized coal-burning furnace, or burn as slurry in water For other incineration, possible dust explosions or "puffs" and high temperature need re be considered. Scrap coal dust may be wet down thoroughly with water in a container and buried in landfill. Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide explosion-proof general and local exhaust ventilation to meet TLV requirements. harvoved filtration of exhausted air may be required to prevent excessive environmen-

Where airborne dust is excessive in the workplace, dust respirators and eye protection

Ir working with coal dust, use good personal hygiene. Wear regularly cleaned work thathing. Showering and changing into street clothing after work may be desirable. Follow good housekeeping procedures to control coal dust build up. Collect dust from settling areas and surfaces in a manner to avoid generating airborne dust. Design dust mapression measures into processes. Meet explosion-proof code requirements for extrical services where coal dust may be present.

SPECIAL PRECAUTIONS AND COMMENTS SECTION IX.

Keasources of heat and ignition, flammable materials, and strong oxidizing agents from areas where coal dust may collect. Prevent static sparks. Inerting may be mairable, such as powdered CaCO 3 or rock dust laid down over coal dust on mine floor ** nitrogen enriched atmosphere in a coal pulverizing machine.

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therenes or to the sultability of information herein for purchaser's purposes are agains at to the surtaining or mismission and though reasonable care has a messarily purchaser's responsibility. Therefore, although reasonable care has bus taken in the proporation of such information, General Electric Company acade no worranties, makes no representations and assumes no responsibility anths accuracy as pullability of such information for application to purchasor's omised purposes or for ransoquateus of its use.

MIS APPROVALS:

Industrial Hygiene

and Safety MEDICAL REVIEW:

PHILLIPS COAL CO. Lonaconing, Maryland 21539

 $C^{\ast}(\mathbb{R}_{C_{max}}),$

— Phones _ Office 301-463-2066 Home 301-463-5326

August 13,2003

Coal Bids Supervisor of Plant Operations 340 Frederick Street P.O. Box 1724 Cumberland, M.D. 21501-1724

TRI-STAR MINING					PAGE
DATE STAR MININ	G - Bro				
07-03-03 E	G - BIG VEIN SHAKE	D -			
	" 30 ga VOL.	*16			
#5930-C DRY:	32 5. 0.00	SULFUI	7777		
TRI-STAR MINTER	- 0.00	U. 7g	BTU	COKE	
~47 1.81		0.83	9281 9819	1 30KE	LBS. SUL.
07-03-05 MUIST	ASH PITTSBURG	** *** *** *** *** ***	14570	•	0.84
4.30	12.43 VOL.	H (RAW) JO			• •
#5931-C DRY:	12.43 VOL. 13.35 0.00	SULFUR		·	
TOT	0.00	1.00	BTU	24-	The second second second
TRI-STAR MINING	**	1.08	11589	COKE	LRC
O7-O3-O2 MOIST	FRANKLIN #4		12448 14366	1	LBS.SUL. 0.87
- 4.55	ASH " (KAW)	JOB #429			9.67
#5932-C DRY:	16.98 VOL. 17.25 0.00	SULFUR		·	
AND STAN STAN COLUMN AND SHAPE SAME SAME SAME SAME SAME SAME SAME SAM	0.00	J. 40	BTU		·
	AL	3.45	12599	COKE	7.00
	the last was not any last the not next and the		12798	9	LBS. SUL.
			15465		2.70
1					

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305



No. 491

BITUMINOUS CDAL DUST

·	INFOHMATION				
SECTION I. MATERIAL	1DENTIFICATION			Date	
MATERIAL NAME: BITUMINO	MATERIAL NAME: BITUMINOUS COAL DUST				
DESCRIPTION: Includes co <86%, "volatile matter" Particulate <75 µm (the interest. Coal consist structures with hetrocy as a "coal molecule"	oals between lign 1 >14% "calorific 1	O/N , and S_{\bullet}, C_{\bullet}	_ O N h	"fixed carbon" e ASTM D388 & D3172). of primary saturated) ring as been suggested	
SOURCE: Mining, handling	, and pulverizin	g processes with	coal.		
SECTION II. INGREDIENTS AND HAZARDS				HAZARD DATA	
"Proximate Analysis" of some air-dried bituminous coals:			ACGIH TLV		
	"Volatiles"	"Fixed Carbon"	"Ash"	8-hr TWA 2 mg/m 3 or	
West Virginia 1.8 Pennsylvania 1.2	20.4	72.4		OSHA PEL 2.4 mg/m3	
Illinois 8.4 Wyoming 11.0	34.5 35.0 38.6	58.4 48.2	5.4 5.9 8.4	Respirable dust with <5% quartz*	
Bituminous coals also cont		40.2	10.2		
Bituminous coals also contain trace metals, sulfur (0.4-3.5) and nitrogen (0.9-1.5%), depending on source and type. *Respirable dust is particulate <5 \(\mu\) m in size. Use quartz formula (MSDS #71) if quartz content is >5%. SECTION III. PHYSICAL DATA				·	
Boiling point					
Vapor pressure at 25 C WA Specific gravity (H O=1) - 1 2 1 6					
Water solubility	Negligible Negligible	Volatiles at 25	c =	Negligible	
Appearance & Odor: Black p	owder; little or	no odor.			
SECTION IN SIDE AND S			•		
SECTION IV. FIRE AND E	XPLOSION DATA			Lower	
177	Autoignition Tem		Limits In	Air 20 05+	
Exclinguishing Modia, with Production Av) 50mm					
A water spray can be used	to cautiously w	de, steam, water,	ammonium	biphosphate powder	
A water spray can be used (avoid raising dust). It is firefighters should have and	s a fire and ext	closion hazawa	to help p	revent ignition	
I STATE OF SET	I-contained 1		*** GVDO26 0	l to heat or flow-	
*Ca 1 oz/ft gives max. flame characteristics; 10-50mJ sp combustion in <200 mesh dus the dir can reach AIT in one SECTION V. REACTIVITY D	energy; smalles ark needed at 0- th**A pile of 2	st 20% of particul 5% moisture, resp 27 Nm. Pitts hard	ate deter	mines ignition	
SECTION V. REACTIVITY D	ΑΤΔ	- Treesburgh	coal dus	t heated at 169 C	
Coal dust is fairly stable				. }	
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slowly at room temperature and faster when heated. In piles with good heat retention this ignition of days and spontaneous ignition can occur. (Humid size					
with On Con and these burn, they can heat the solid and devolatization					
with O2, CO2, and water vapor to produce combustible gases. Oxidation products of coal can include oxides of carbon, nitrogen and sulfur, partially this material is incompatible with					
Oxidized hydrocarbons, goot	and el	or carbon, nitro	gen and s	ulfur, partially	
This material is incompatible	4.6.41.				

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Remove ignition sources. Clean-up personnel may need dust repirators and eye protection. Coal dust should be cleaned up in manner that avoids dispersing particulate in air

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DARSHURCE(S) CODE:2-4,14,38,43,47

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APPROVALS: CRD Industrial Hygiene and Safety MEDICAL REVIEW: 29 May 1982