

Fayette County Health Center
100 New Salem Road, Room 167
Uniontown, PA 15401
April 30, 2009

Bureau of Mine Safety

724-439-7469
Fax 724-439-7324

Mr. Jim Coe
Bucyrus
4041 Wumo Road
Pulaski, VA 24301

Re: **ITEM: DIESEL SCOOP**
MODEL: 482D; SERIAL NO.: 482-2251; VOLTAGE: 12 VDC; HP: 78 @ 2800
RPM
APSID NO: 642320
APPROVAL OF BOTE-D 63-09

ENGINE MFG: DEUTZ MODEL: BF4L 2011 HP: 78 @ 2800 RPM
EMISSION SYSTEM TYPE: DBT MANAGEMENT SYSTEM, AZ25 OXIDATION
CATALYST AND FST-115-26 DPM FILTER ELEMENT
BOTE-DEES NO. 64-09 PA VENTILATION RATE: 6000 CFM

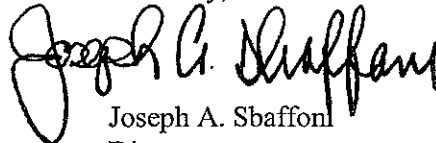
Dear Mr. Coe:

We have completed our evaluation of the equipment noted above, and approve its use in all bituminous underground coal mines of Pennsylvania. The equipment meets the legal requirements of the *Pennsylvania Bituminous Coal Mine Act*.

Pennsylvania approval number **BOTE-D 63-09** has been assigned to the equipment. This number must appear conspicuously on the outside of the subject equipment on a 2" x 4" rust-resistant metal plate, or any other Bureau acceptable material. The approval plate should read "Commonwealth of Pennsylvania" and "Approval No. **BOTE-D 63-09**." The plate and lettering should be resistant to removal by abrasion.

If you want to make changes or alterations on this equipment, a written request outlining the proposed changes, together with any related prints or drawings, must be submitted to this office for approval. If you have any questions, please contact me at the above telephone number.

Sincerely,



Joseph A. Scaffoni
Director
Bureau of Mine Safety



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF MINE SAFETY

April 14, 2011

Ken Matney
Bucyrus
401 Wurno Road
Pulaski, VA 24301

Re: **ITEM:** DIESEL SCOOP
MODEL: 482D; **SERIAL NO.:** 482-2251; **VOLTAGE:** 12 VDC; **HP:** 78
@2800 RPM
APSID NO: 726321
MODIFICATION OF APPROVAL OF BOTE-D 63-09

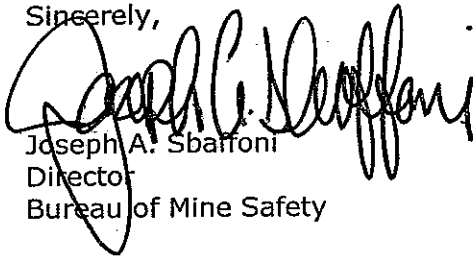
Dear Mr. Matney:

We have completed our evaluation of the equipment noted above, and approve its use in all bituminous underground coal mines of Pennsylvania. The equipment meets the legal requirements of the *Pennsylvania Bituminous Coal Mine Act*.

Pennsylvania approval number **BOTE-D 63-09** has been assigned to the equipment. This number must appear conspicuously on the outside of the subject equipment on a 2" x 4" rust-resistant metal plate, or any other Bureau acceptable material. The approval plate should read "Commonwealth of Pennsylvania" and "Approval No. **BOTE-D 63-09**." The plate and lettering should be resistant to removal by abrasion.

If you want to make changes or alterations on this equipment, a written request outlining the proposed changes, together with any related prints or drawings, must be submitted to this office for approval. If you have any questions, please contact me at the above telephone number.

Sincerely,



Joseph A. Sbarfioni
Director
Bureau of Mine Safety



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF MINE SAFETY

September 2, 2011

Mr. Jim Coe
Bucyrus
401 Wurno Road
Pulaski, VA 24301

Re: **ITEM:** Diesel Scoop
MODEL: 482D; **SERIAL NO.:** 482-2272-74 or 75; **VOLTAGE:** 12 VDC;
HP: 85 @ 2600 rpm
APSID NO: 752090
MODIFICATION OF APPROVAL NO. BOTE-D 63-09

ENGINE MFG: CUMMINS C3.3 ENGINE
EMISSION SYSTEM TYPE: 85 HP @ 2600 RPM ENGINE WITH AN EMISSIONS CONTROL SYSTEM USING A FS&T MODEL FST-115-26 DPM FILTER AND AN EVAPAR MODEL AZ29 OXIDATION CATALYST
BOTE-DEES NO. 152-11 **PA VENTILATION RATE 4500 CFM**

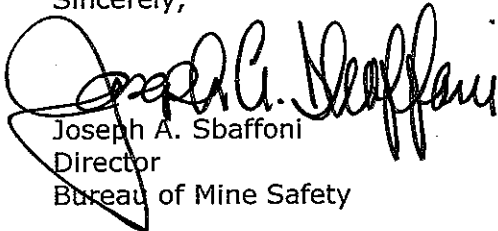
Dear Mr. Coe:

We have completed our evaluation of the equipment noted above, and approve its use in the Rosebud bituminous underground coal mines of Pennsylvania. The equipment meets the legal requirements of the *Pennsylvania Bituminous Coal Mine Act*.

Pennsylvania approval number **BOTE-D 63-09** has been assigned to the equipment. This number must appear conspicuously on the outside of the subject equipment on a **2" x 4"** rust-resistant metal plate, or any other Bureau acceptable material. The approval plate should read "Commonwealth of Pennsylvania" and "Approval No. **BOTE-D 63-09**." The plate and lettering should be resistant to removal by abrasion.

If you want to make changes or alterations on this equipment, a written request outlining the proposed changes, together with any related prints or drawings, must be submitted to this office for approval. If you have any questions, please contact me at the above telephone number.

Sincerely,


Joseph A. Scaffoni
Director
Bureau of Mine Safety

Gaseous Ventilation Rates

Engine Company: Cummins
 Engine Model: C3.3
 Date: 8/25/2011
 Data From: Cummins 63 kw

ISO 8178 Test Conditions

Mode Number	1	2	3	4	5	6	7	8
RPM	2598	2602	2598	2602	1600	1601	1602	829
TORQUE lbf								
HORSEPOWER	85							

ISO Output	NO GR/HR	197	202.9	147.2	45.3	225.6	178.4	125.7	14.3
Results	NO2 GR/HR	28.7	34.5	37.6	29.8	29.1	33.2	23.7	7.3
For Raw Engine	CO2 GR/HR	46.411	33.464	23.605	10	33.381	24.626	16.437	1.788
	CO GR/HR	138.1	52.4	37.8	105.3	50.1	22.4	22	25.9

Weight per Mole

NO	30.0061 Gr/mole
NO2	45.9947 Gr/mole
CO2	44.17 Gr/mole
CO	28.0101 Gr/mole

Formula

(cfm Gas)=(m gas)(K) Where m= mass of the gas in Gr/Mole

$$K = \frac{13913.4}{(\text{Pollutant Grams per Mole})(\text{Pollutant Dilution Value})}$$

PART 7, SUBPART E CATEGORY B

Pollutant	Dilution Value								
NO CFM	25 PPM	3654	3763	2730	840	4184	3309	2331	265
NO2 CFM	5 PPM	1736	2087	2275	1803	1761	2009	1434	442
CO2 CFM	5000 PPM	3	2	1	1	2	2	1	0
CO CFM	50 PPM	1372	521	376	1046	498	223	219	257

PART 32

Pollutant	Dilution Value								
NO CFM	12.5 PPM	7308	7527	5460	1680	8369	6618	4663	530
NO2 CFM	5 PPM	1736	2087	2275	1803	1761	2009	1434	442
CO2 CFM	2500 PPM	6	4	3	1	4	3	2	0
CO CFM	50 PPM	1372	521	376	1046	498	223	219	257

Pennsylvania

Pollutant	Dilution Value								
NO CFM	25 PPM	3654	3763	2730	840	4184	3309	2331	265
NO2 CFM	3 PPM	2894	3479	3791	3005	2934	3348	2390	736
CO2 CFM	5000 PPM	3	2	1	1	2	2	1	0
CO CFM	35 PPM	1960	744	536	1494	711	318	312	368

VENT PLATE 4500 CFM Rounded



BUREAU OF MINE SAFETY

August 27, 2012

Jim Coe
CATERPILLAR
4041 Wurno Road
Pulaski, VA 24301

Re: **ITEM:** Diesel Powered Scoop **MODEL:** 482D **VOLTAGE:** 12VDC **HP:** n/a
APSID NO: 785588
MODIFICATION TO APPROVAL BOTE-D 63-09

ENGINE MFG: Caterpillar/Deutz **MODEL:** BF462011
BOTE-DEES NO. 64-09 **PA VENTILATION RATE:** 6000

Dear Mr. Coe:

We have completed our evaluation of the equipment noted above, and approve its use in all bituminous underground coal mines of Pennsylvania. The equipment meets the legal requirements of the *Pennsylvania Bituminous Coal Mine Act*.

Pennsylvania approval number **BOTE-D 63-09** has been assigned to the equipment. This number must appear conspicuously on the outside of the subject equipment on a 2" x 4" rust-resistant metal plate, or any other Bureau acceptable material. The approval plate should read "Commonwealth of Pennsylvania" and "Approval No. **BOTE-D 63-09**." The plate and lettering should be resistant to removal by abrasion.

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Joseph A. Scaffoni
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