

Calgon Carbon Corporation NETL Mercury Panel Discussion December 11, 2007

Sorbent Specifications



Property	Units	MC	MC Plus	CF	CF Plus	Referee Method
Iodine Number	mg/g	400 min	400 Min			ASTM D4607
Moisture	%	<8	<12	<8	<12	ASTM D2867
Bromine	%	Proprietary		Proprietary		Will Disclose upon Secrecy Agreement
Ash	%	<35	<35	<35	<35	ASTM D2866
Particle Size	µm	<16	<16	<16	<16	Laser Coulter LS13-320
Foam Index	Drops			<30	<30	TM-99
Typical Properties						
Ignition Temperature	°C	>450	>450	>450	>450	ASTM D3466
Iodine Number	mg/g			400	400	ASTM D4607
Volatile Matter	%	<3	<3	<3	<3	ASTM D5832

Figure 1: Starting Material and Surface Area Affects on Inflight Capture Efficiency

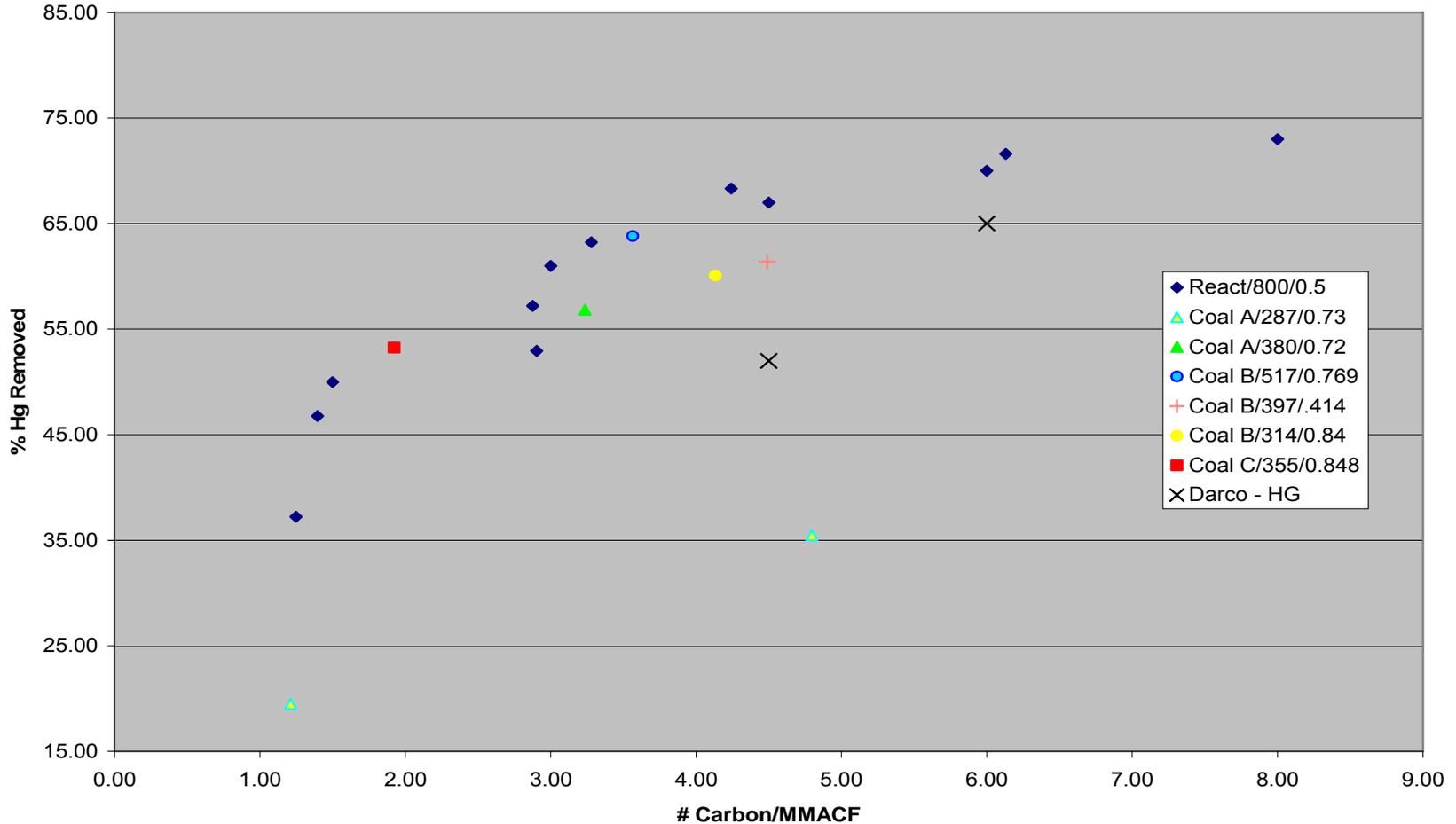
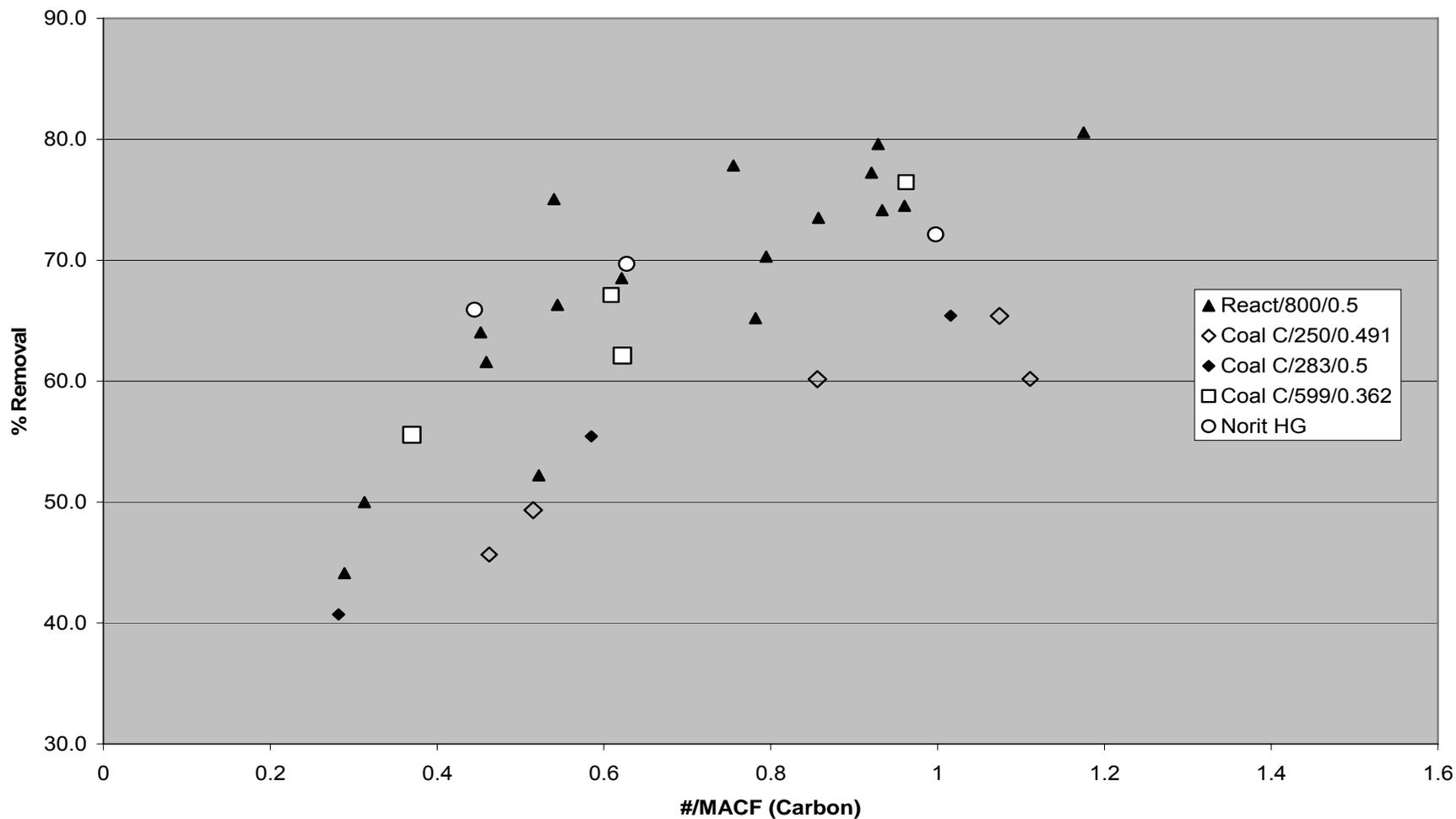


Figure 2: Second Study of Surface Area and Apparent Density Affects on In Flight Capture



- **Two plants (3 lines) producing virgin grade product**
 - 110 million pounds granular product
 - 8 million pounds PAC

- **Two plants producing reactivated product**
 - 56 million pounds
 - 14.5 dedicated to FluePAC

- **Idle virgin carbon production**
 - B-Line, Cattletsburg, KY – scheduled to start up in 2009
 - Limited capital investment required

- **Idle reactivation capacity**
 - 9 million pounds

YEAR	TOTAL
2007	23 MM
2008	57 MM
2009	107 MM
2010	112 MM

- **Calgon has unparalleled assets to keep pace with demand beyond 2009 through at least 2012.**
 - Three domestic production lines.
 - Shift demand for other markets to alternative products and/or alternative production facilities
 - 250-300 MM pounds of annual FluePAC production

Phase III would Occur Some time after 2012 and involve one of the options below.

- **Pearl River plant expansion - Mississippi**
 - Addition of a new production line
 - 80 to 90 MM pounds
 - Utilize existing infrastructure
- **Expand supply via new facilities/new production lines at existing CCC facilities outside the U.S.**
- **U.S. Greenfield site**
 - 130 to 150 MM pounds
 - Large capital investment

➤ **Current Market Pricing.**

Non brominated - \$0.60-\$0.75/lb

Brominated - \$1.00-\$1.10/lb

Cement Friendly - \$0.75-\$0.85/lb

Cement Friendly/Brominated - \$1.15-\$1.25/lb

➤ **Future impacts are difficult to quantify but include:**

- Acceptance of Chinese Product and vendor capability of overcoming quality and logistical issues related to importing large volumes.
- New competitors with domestic production.
- Feasibility of On site production.
- Ability of current suppliers to expand capacity.
- New technologies.

- **Recyclable Carbon**
- **Hot Side ESP Carbon.**
- **Sulfur Tolerant Carbon.**