GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: April 23, 1980

Project Title: Lab Tests on Activated Carbon - JPL

Project No: A-2608

Project Director: Dr. Stanton B. Smith

Sponsor: J. G. Boswell Company; California Processing Division; Corcoran, CA 93

Agreement Period: From February 19, 1980 Until April 19, 1980

Type Agreement: Purchase Order No. A 6093

Amount: $500 (est.)

Reports Required: Letter Report on Tests

Sponsor Contact Person (s):

Technical Matters

TECHNICAL REPRESENTATIVE

Mr. Lance Chao
Chief Chemist
J. G. Boswell Company
California Processing Division
P. O. Box 457
Corcoran, CA 93212

Contractual Matters
(thru OCA)

Defense Priority Rating: N/A

Assigned to: CMSL/CESB (School/Laboratory)

COPIES TO:

- Project Director
- Division Chief (EES)
- School/Laboratory Director
- Dean/Director–EES
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- Procurement Office
- Security Coordinator (OCA)
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- EES Reports & Procedures
- Project File (OCA)
- Project Code (GTRI)
- Other

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION

Date: ~~June 12, 1980~~ 7/16/80

Project Title: Lab Tests on Activated Carbon - JPL

Project No: A-2608

Project Director: Dr. Stanton B. Smith

Sponsor: J. G. Boswell Company; California Processing Division; Corcoran, CA 93212

Effective Termination Date: 4/19/80

Clearance of Accounting Charges: -------

Grant/Contract Closeout Actions Remaining:

- x Final Invoice ~~and Closing Documents~~ (Fixed-Price)
- _ Final Fiscal Report
- _ Final Report of Inventions
- _ Govt. Property Inventory & Related Certificate
- _ Classified Material Certificate
- _ Other _____

Assigned to: CMSL/~~GTSB~~ OD (~~School~~/Laboratory)

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Other _____

CA-4 (1/79)

OCA
(A-2608

ENGINEERING EXPERIMENT STATION
GEORGIA INSTITUTE OF TECHNOLOGY • ATLANTA, GEORGIA 30332

April 18, 1980

Mr. Lance Chao
J. G. Boswell Company
P.O. Box 457
Carcorau, CA 93212

Dear Mr. Chao,

We have completed analysis on the Jet Propulsion Laboratory's activated carbons made from cottonseed hull wastes. Numerical results are shown in Table 1.

Our tests verified the high activity levels with respect to iodine adsorption which were in some cases even higher than indicated by JPL's tests. The ash levels are fairly high, but if the ash is only silica and alkaline earth minerals of low solubility then it would not affect the utility of the carbon for water purification. However, substantially lower activity levels would be acceptable for a commercial water carbon which could both increase the yields and lower the ash levels of the product. I am particularly impressed by the good Modified Phenol Values which are 20 or less on all but one sample. MPV's may go as high as 30 and still be salable. (The higher the MPV, the poorer the carbon).

Of the samples listed the one most typical of a water purification carbon would be No. 6-13-79-2u.

The decolorizing index figures are all very low but this is of no consequence for a water purification carbon. They were determined as an indication of the pore size distributions found in this type of charcoal. The data all point toward a very fine-pored retentive-type structure which is good for water treatment but not a type suitable for sugar decolorization and dye removal which require large pores.

I trust this information is helpful to you and may establish a good basis for further negotations. We will be sending an invoice in the amount of $500. for these analysis soon.

Thank you for your interest and patience.

Very truly yours.

Stanton B. Smith, Ph.D.
Principal Research Scientist

SBS/pr

TABLE 1

ANALYSES OF JPL CARBON SAMPLES

Sample No.	Iodine Number mg/g	Modified Phenol Val. ppm	Decol. Index DI units	Moisture % wet bases %	Volatile Matter %	Ash %	App. Density g/ml
6-8-79-1	875	14.9	1.7	2.16	10.36	17.3	.116
6-13-79-3	644	23.3	-	-	-	-	-
6-13-79-2u	702	18.2	1.8	1.76	9.51	15.06	.116
6-13-79-3u	799	20.5	2.7	3.32	11.5	16.6	.147
6-15-79-1	974	14.6	2.7	1.87	10.5	17.5	.106
6-21-79-3	989	19.2	3.7	2.31	12.1	19.2	.121
6-25-79-2u	925	15.7	1.6	2.29	11.1	17.3	.109