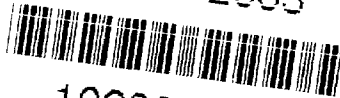


01-15-2003



PATENT

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R SHEET

PATENTS ONLY

1-13-03

TO: Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

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- ☐ Resubmission (Non-Recordation)

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Name	Execution Date		
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Shamrock Technology Corp.	12	16	02
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	/	/	

Receiving Party☐ Mark if additional names of receiving parties attached

Name (line 1) Applied Science & Technology, Inc.

Name (line 2)

Address (line 1) 90 Industrial Way

Address (line 2)

Address (line 3) Wilmington MA 01887-4610

City State/Country Zip Code

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PATENT

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Correspondent Name and Address

Area Code and Telephone Number 617-248-7000

Name Patent Administrator

Address (line 1) Testa, Hurwitz & Thibault, LLP

Address (line 2) High Street Tower

Address (line 3) 125 High Street

Address (line 4) Boston, MA 02110

Pages Enter the total number of pages of the attached conveyance document including any attachments.

3

Application Number(s) or Patent Number(s)

☒ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Number(s)

5,830,272

5,879,460

6,117,238

5,865,969

5,759,268

6,149,367

5,881,668

5,882,403

6,135,051

5,858,101

6,176,987

6,051,066

Patent Number(s)

6,059,517

6,083,357

6,235,172

6,159,290

Patent Cooperation Treaty (PCT)

Enter PCT application number
only if a U.S. Application Number
has not been assigned.

PCT

PCT

PCT

PCT

PCT

PCT

Number of Properties

Enter the total number of properties involved.

16

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41):

\$ 640.00

Method of Payment: Enclosed ☒Deposit Account ☐

Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account)

Deposit Account Number # 20-0531

Authorization to charge additional fees: Yes ☒ No ☐

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Jamie H. Rose

Name of Person Signing

Signature

January 8, 2003

Date

2559439_1

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Box Assignment, Director of the United States Patent and Trademark Office, Washington, D.C. 20231

Schedule A

Title	Inventor(s)	Patent No.	Filed	Issued
System for and Method of Providing a Controlled Deposition on Wafers	Begin et al.	5,830,272	11/07/95	11/03/98
Apparatus for, and Method of, Providing a Deposition on a Substrate	Clarke	5,865,969	10/23/96	02/02/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	5,881,668	01/27/97	03/16/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	5,858,101	01/27/97	01/12/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	5,879,460	01/27/97	03/09/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	5,759,268	01/27/97	06/02/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	5,882,403	01/27/97	03/16/99
System for Providing a Controlled Deposition on Wafers	Begin et al.	6,176,987	01/27/97	01/23/01
End Effector Assembly for Inclusion in a System for Producing Uniform Deposits on a Wafer	Begin	6,117,238	09/76/96	09/12/00
End Effector Assembly for Inclusion in a System for Producing Uniform Deposits on a Wafer	Begin	6,149,367	04/15/98	11/21/00
End Effector Assembly for Inclusion in a System for Producing Uniform Deposits on a Wafer	Begin	6,135,051	04/15/98	10/24/00
End Effector Assembly for Inclusion in a System for Producing Uniform Deposits on a Wafer	Begin	6,051,066	04/15/98	04/18/00
End Effector Assembly for Inclusion in a System for Producing Uniform Deposits on a Wafer	Begin	6,059,517	5/9/00	05/09/00
System for and Method of Providing a Controlled Deposition on Wafers	Begin et al.	6,083,357	01/27/97	07/04/00
System for and Method of Providing a Controlled Deposition on Wafers	Begin et al.	6,235,172	08/31/99	05/22/01
Apparatus for, and Method of Providing a Controlled Deposition on Substrates	Clarke and Barb	6,159,290	10/02/98	12/12/00

ASSIGNMENT

WHEREAS, Shamrock Technology Corp., a Delaware Corporation (hereinafter, "ASSIGNOR") is the sole and exclusive owner, free and clear of all encumbrances, of the entire right, title and interest in the United States patents set forth on Appendix A hereto (the "Patents");

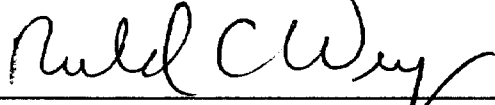
WHEREAS, Applied Science & Technology, Inc., a Delaware corporation (hereinafter "ASSIGNEE") is desirous of acquiring the entire right, title and interest in, to and under the Patents and inventions covered thereby;

NOW, THEREFORE, for valuable consideration, the receipt of which is hereby acknowledged, Assignor does hereby sell, assign and transfer unto said Assignee, its successors, and assigns, its entire right, title and interest in, to, and under the Patents, including all Letters Patent of the United States and all foreign countries which have been or shall be granted on the Patents, or any parts thereof, or any divisions, continuations, reissues, extensions or other applications based in whole or in part thereon; the same to be held and enjoyed by Assignee for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term or terms for which said patents are or may be granted or reissued, as fully and entirely as the same would have been held and enjoyed by the Assignor if this assignment and sale had not been made; and, together with all claims for damages by reason of past infringement of said patents, with the right to sue for such damages, and collect the same for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives. And Assignor agrees, for itself and its successors and assigns, with said Assignee and its successors and assigns, but at its or their expense and charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of any rights hereunder in the United States and in all other countries to said Assignee, with specifications and claims to vest and confirm in said Assignee, its successors and assigns, the legal title to all such patents and to otherwise give full effect to and perfect the rights of said Assignee under this Assignment.

And Assignor does hereby authorize and request competent authorities to issue such Letters Patents as shall be granted upon said applications to said Assignee, its successors and assigns. Assignor hereby covenants that it has full right to convey the entire interest herein assigned, and that it has not executed, and will not execute, any agreements inconsistent herewith.

IN WITNESS WHEREOF, the undersigned has executed this Assignment as of this 16 day of December, 2002.

Shamrock Technology Corporation



Printed Name: Ronno C. Deigrie

Title: Treasurer

[NOTARY]