

**ASSIGNMENT RECORDATION COVER SHEET
-PATENTS ONLY-**

Commissioner of Patents:

Please record the attached document.

1. Name of conveying party:
- | | |
|----------------------------|-------------------------------|
| a) Yongsik Yu | d) Michael Carris |
| b) Atul Gupta | e) William Crew |
| c) Karen Billington | f) Thomas W. Mountsier |

2. Name and address of receiving party:
- a) Name: **Novellus Systems, Inc.**
Address: **3970 North First Street
San Jose, California 95134**

3. Nature of conveyance:
- | | |
|--|--|
| <input checked="" type="checkbox"/> Assignment | <input type="checkbox"/> Merger |
| <input type="checkbox"/> Security Agreement | <input type="checkbox"/> Change of Name |
| <input type="checkbox"/> Other _____ | <input type="checkbox"/> License Agreement |

Execution Date: **October 21, 2004 (Yu, Billington and Mountsier); October 26, 2004 (Carris and Crew); November 8, 2004 (Gupta).**

4. Application Number or Patent Number: **10/915,117**

The title of the application is: **LOW-K B-DOPED SIC COPPER DIFFUSION BARRIER FILMS**

5. Please send all correspondence concerning this document to:

**Beyer Weaver & Thomas, LLP
P.O. Box 778
Berkeley, CA 94704-0778**

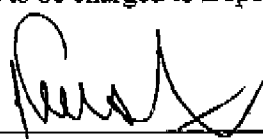
**Ph: (510) 843-6200
Fax: (510) 843-6203
Customer Number: 022434**

6. Total number of applications and patents involved: **1**

7. Total fee (37 CFR 3.41): **\$40.00**

- Enclosed.
 Charge to Deposit Account No. 500388 (Order No. 50-0388).
 Any additional fees are authorized to be charged to Deposit Account No. 500388 (Order No. _____).

Date: **November 22, 2004**



James E. Austin
Registration No. 39,489

Total number of pages including this cover sheet, attachments and documents: **6**

Attorney Docket No. **NOVLP101/NVLS-2915**
(Revised 9/03)

700133412

**PATENT
REEL: 015402 FRAME: 0675**

ASSIGNMENT OF PATENT APPLICATION

Whereas I, an undersigned inventor, have invented certain new and useful improvements as set forth in the patent application entitled:

LOW-K B-DOPED SiC COPPER DIFFUSION BARRIER FILMS

(Atty. Docket No. NOVLP101/NVLS-2915), (check one)

- for which I have executed a U.S. patent application on even date herewith. (Accompanying)
 which bears U.S. application No.10/915,117. (Not accompanying)
 which is a U.S. provisional application. (Accompanying)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, an undersigned inventor, hereby:

- 1) Sell, assign and transfer to **Novellus Systems, Inc.**, a California corporation having a place of business at 3970 North First Street, San Jose, California 95134 ("ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, applications based upon, and patents granted upon (including foreign patents and the right to claim priority), the above-referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all United States Patents resulting from said application or any division, continuation, substitute, renewal, re-examination or reissue thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon the inventor, as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I have not entered and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Authorize and request my attorney/agent to insert above the application No. in order to assist with recordal of this assignment.

Signed on the date indicated beside my signature.

1. Inventor Signature: [Signature]
Yongsik Yu

Date: 10/21/2004

State of Oregon)
County of Washington) ss.

On this 21 day of October, in the year 2004, before me, Laura L. Johnson, Notary Public, personally appeared Yongsik Yu, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Notary Signature [Signature]

2. Inventor Signature: _____
Atul Gupta

Date: _____

State of California)
County of _____) ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public personally appeared Atul Gupta, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____

(SEAL)

3. Inventor Signature: [Signature]
Karen Billington

Date: 10/21/04

State of Oregon)
County of Washington) ss.

On this 21 day of October, in the year 2004, before me, Laura L. Johnson, Notary Public, personally appeared Karen Billington, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Notary Signature [Signature]

1. Inventor Signature: _____ Date: _____
Yongsik Yu

State of Oregon)
)
County of _____) ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public, personally appeared Yongsik Yu, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____ (SEAL)

2. Inventor Signature: _____ Date: 11/08/04
Atul Gupta

State of California)
)
County of _____) ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public personally appeared Atul Gupta, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____ (SEAL)

3. Inventor Signature: _____ Date: _____
Karen Billington

State of Oregon)
)
County of _____) ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public, personally appeared Karen Billington, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____ (SEAL)

4. Inventor Signature: Michael Carris
Michael Carris

Date: 10/26/04

State of Oregon)
County of Washington) ss.

On this 26 day of October, in the year 2004, before me, Laura Johnson, Notary Public, personally appeared Michael Carris, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Laura Johnson



5. Inventor Signature: William Crew
William Crew

Date: 10/26/04

State of Oregon)
County of Washington) ss.

On this 26 day of October, in the year 2004, before me, Laura Johnson, Notary Public, personally appeared William Crew, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Laura Johnson



6. Inventor Signature: _____
Thomas W. Mountsier

Date: _____

State of California)
County of _____) ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public, personally appeared Thomas W. Mountsier, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____

(SUAL)

4. Inventor Signature: _____

Date: _____

Michael Carris

State of Oregon)

County of _____)

ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public, personally appeared Michael Carris, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____

(SEAL)

5. Inventor Signature: _____

Date: _____

William Crew

State of Oregon)

County of _____)

ss.

On this _____ day of _____, in the year 2004, before me, _____, Notary Public, personally appeared William Crew, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature _____

(SEAL)

6. Inventor Signature: _____

Date: 10/21/04

Thomas W. Mountsier

State of California)

County of Santa Clara)

ss.

On this 21st day of October, in the year 2004, before me, Celia Buchinski, Notary Public, personally appeared Thomas W. Mountsier, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Celia Buchinski

