

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

| SUBMISSION TYPE:   | NEW ASSIGNMENT                 |                |                     |            |               |            |  |
|--|--------------------------------|----------------|---------------------|------------|---------------|------------|--|
| NATURE OF CONVEYANCE:  | ASSIGNMENT                     |                |                     |            |               |            |  |
| CONVEYING PARTY DATA   |                                |                |                     |            |               |            |  |
| <table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Fergal O'MOORE</td><td>06/13/2008</td></tr><tr><td>Steve SCHULTZ</td><td>06/14/2008</td></tr></tbody></table> | Name                           | Execution Date | Fergal O'MOORE      | 06/13/2008 | Steve SCHULTZ | 06/14/2008 |  |
| Name   | Execution Date                 |                |                     |            |               |            |  |
| Fergal O'MOORE   | 06/13/2008                     |                |                     |            |               |            |  |
| Steve SCHULTZ  | 06/14/2008                     |                |                     |            |               |            |  |
| RECEIVING PARTY DATA   |                                |                |                     |            |               |            |  |
| Name:  | NOVELLUS SYSTEMS, INC.         |                |                     |            |               |            |  |
| Street Address:  | 4000 N. First Street           |                |                     |            |               |            |  |
| City:  | San Jose                       |                |                     |            |               |            |  |
| State/Country:   | CALIFORNIA                     |                |                     |            |               |            |  |
| Postal Code:   | 95134                          |                |                     |            |               |            |  |
| PROPERTY NUMBERS Total: 1  |                                |                |                     |            |               |            |  |
| <table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>12140035</td></tr></tbody></table>   | Property Type                  | Number         | Application Number: | 12140035   |               |            |  |
| Property Type  | Number                         |                |                     |            |               |            |  |
| Application Number:  | 12140035                       |                |                     |            |               |            |  |
| CORRESPONDENCE DATA  |                                |                |                     |            |               |            |  |
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| Correspondent Name:  | INGRASSIA FISHER & LORENZ      |                |                     |            |               |            |  |
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| ATTORNEY DOCKET NUMBER:  | 004.0224                       |                |                     |            |               |            |  |
| NAME OF SUBMITTER:   | Brett A. Carlson               |                |                     |            |               |            |  |
| Total Attachments: 6<br>source=20080929_Assignment_NVLS3273#page1.tif<br>source=20080929_Assignment_NVLS3273#page2.tif<br>source=20080929_Assignment_NVLS3273#page3.tif                                    |                                |                |                     |            |               |            |  |

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PATENT  
REEL: 021599 FRAME: 0122

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**PATENT**

**REEL: 021599 FRAME: 0123**

United States Utility Patent Application  
Attorney Docket No.: 004.0224  
First Named Inventor: Fergal O'MOORE

**ASSIGNMENT**

**WHEREAS**, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") have invented:

CHEMICAL MECHANICAL POLISHING WITH MULTI-ZONE SLURRY DELIVERY

for which application for Letters Patent of the United States:

- ☐ has been executed on even date herewith;
- ☐ executed on \_\_\_\_\_;
- ☒ was filed on June 16, 2008 and assigned U.S. Application Serial No. 12/140,035 ;

**AND WHEREAS**, Novellus Systems, Inc., a corporation, having a place of business at 4000 N. First Street, San Jose, CA 95134 (hereinafter "ASSIGNEE"), and successors, assigns, and legal representatives, is desirous of acquiring an interest therein;

**AND WHEREAS**, a "formal application," as referred to herein, shall mean any provisional, nonprovisional, continuation, continuation in part, continued prosecution, substitute, renewal, extension, divisional, reissue, reexamination, foreign, Patent Cooperation Treaty (PCT) or other patent application, inventor's certificate, or like document;

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the full and exclusive right to the aforesaid application, to the invention as described in the aforesaid application, and to any formal application which may be filed based in whole or in part on the aforesaid application, in the United States and all foreign countries, together with the right of priority under any international agreements to which the United States currently adheres and adheres to in the future, and hereby authorizes and requests the Commissioner of Patents to issue said Letters Patent to ASSIGNEE, for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives,

**AND ASSIGNOR HEREBY AGREES** to transfer, upon request of ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, a like interest in and to any improvements and formal applications based thereon, growing out of or relating to the invention; and, without further remuneration, to provide all reasonable assistance and execute any papers requested by ASSIGNEE, its successors, assigns and legal representatives, to preserve and/or acquire ASSIGNEE's full protection and title in and to the invention hereby transferred and any improvements therein,

**AND ASSIGNOR** authorizes ASSIGNEE, its successors, assigns, and legal representatives, or anyone it may properly designate, to insert in this instrument the filing date and/or serial number of said application when ascertained;

**ASSIGNOR AGREEING, FURTHERMORE**, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE for the filing and granting of formal applications based on the invention or improvements therein, and the perfecting of title thereto in ASSIGNEE.

**EXECUTED** as of the date(s) written below by ASSIGNOR:

Fergal O Moore  
Inventor's Signature

Date: 6/13/08

Fergal O'MOORE  
Inventor's Printed Name

State of California )  
County of Santa Clara )

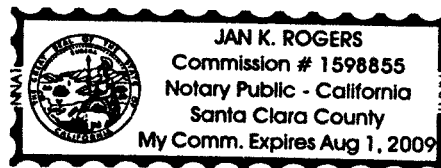
On JUNE 13, 2008 before me, JAN K ROGERS, Notary Public  
Date Here insert Name and Title of the Officer  
personally appeared FERGAL O'MOORE  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature JAN K ROGERS  
Signature of Notary Public



(Seal)

\_\_\_\_\_  
Inventor's Signature

Date: \_\_\_\_\_

Steve SCHULTZ

\_\_\_\_\_  
Inventor's Printed Name

State of California )

)

County of \_\_\_\_\_)

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here insert Name and Title of the Officer  
personally appeared \_\_\_\_\_

\_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_  
Signature of Notary Public

(Seal)

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**AND ASSIGNOR HEREBY AGREES** to transfer, upon request of ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, a like interest in and to any improvements and formal applications based thereon, growing out of or relating to the invention; and, without further remuneration, to provide all reasonable assistance and execute any papers requested by ASSIGNEE, its successors, assigns and legal representatives, to preserve and/or acquire ASSIGNEE's full protection and title in and to the invention hereby transferred and any improvements therein,

**EXECUTED** as of the date(s) written below by ASSIGNOR:

Stephen C. Schultz  
Inventor's Signature

Date: 6/14/08

Steve SCHULTZ  
Inventor's Printed Name

ARIZONA  
State of ~~California~~ )  
County of MARICOPA )

On June 14, 2008 before me, LISA J. ALLEN  
Date Here insert Name and Title of the Officer  
personally appeared STEPHEN C. SCHULTZ  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of ~~California~~ ARIZONA that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature [Signature]  
Signature of Notary Public

(Seal)

