S-112,882	Rev. 04/03/2006
Form PTO1595	U.S. Department of Commerce
(Rev. 10/02)	Patent and Trademark Office FORM COVER SHEET
	NTS ONLY
To the Honorable Commissioner for Patents. Please	record the attached original documents or copy thereof.
Name of conveying party(ies): Dipen N. Sinha, Cristian Pantea	2. Name and address of receiving party:
Additional name(s) of conveying party(ies) attached?	Name: Los Alamos National Security, LLC
3. Nature of Conveyance:	Address:
Assignment Merger	Los Alamos National Laboratory
☐ Security Agreement ☐ Change of Name ☐ Other	LC/IP, MS A187
Execution Date: 04/10/2009	- · · · · · · · · · · · · · · · · · · ·
Execution Date: 04/10/2009	Los Alamos, NM 87545
	Additional name(s) address(es) attached ☐ Yes ☑ No
 Application number(s) or patent number(s): If this document is being filed together with a new a of the application is: 	ipplication, the execution date
A. Patent Application No.(s) 12/166,842	B. Patent No.(s)
Additional numbers a	ttached ☐ Yes ☒ No
Name and address of party to whom correspondence concerning document should be mailed:	Total number of applications and patents involved: 1
Name: Bruce H. Cottrell	7. Total fee (37 CFR 3.41): \$ 40.00 Enclosed Authorized to be charged to deposit account
Registration No.: 30,620	
Address: Los Alamos National Laboratory LC/IP, MS A187 Los Alamos, NM 87545	
	8. Deposit account number 12-2150
DO NOT US	E THIS SPACE
	L THIS SPACE
Statement and signature:	
To the best of my knowledge and belief, the foregoing is a true copy of the original document.	ng information is true and correct and any attached copy
Bruce H. Cottrell	Cattull Nay 5 2019
Name of person signing Signature	Date
	Total number of pages: 3
OMB No. 0651-0027 (exp. 6/30/05)	Total number of pages. 3
Fax documents to be recorded with required cover she OR	pet to: (571) 273-0140
Mail documents to be recorded with required cover she	Mail Stop Assignment Recordation Services PO Box 1450
	Alexandria, VA 22313-1450

PATENT REEL: 022643 FRAME: 0743

Rev. 01/30/04

ASSIGNMENT

DOE S-112,882

For good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S),

1. Dipen N. Sinha

2. Cristian Pantea

hereby sells, assigns and transfers to ASSIGNEE, Los Alamos National Security, LLC, a Delaware Corporation, having its statewide administrative offices located at Los Alamos National Laboratory, LC/IP, Los Alamos, New Mexico 87545, and the successors, assigns and legal representatives of the ASSIGNEE all of its right, title and interest for the United States and its territorial possessions and in all foreign countries in and to, any and all improvements which are disclosed in the invention titled:

DEVICE AND METHOD FOR GENERATING A BEAM OF ACOUSTIC ENERGY FROM A BOREHOLE, AND APPLICATIONS THEREOF

•			i			
and which is found in						
			i			
			!	•		

(a)		U.S. patent application executed on the above-named person(s) as inventor(s)	, entitled as above and listing
(b)	\boxtimes	U.S. application Serial No. 12/166,842, filed	on <u>7/02/2008</u> .
(c)	\square	U.S. Patent No, issued	<u> </u>
(d)		U.S. provisional application filed on the above-named person(s) as inventor(s)	, entitled as above and listing

and any legal equivalent thereof in a foreign country, including the right to claim priority and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, continuation-in-part, extension or substitute thereof, and any reissue, reexamination or extension of said Letters Patent and all rights under all International Conventions for the Protection of Industrial Property;

ASSIGNOR(S) hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;

ASSIGNOR(S) further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation, or proceeding relating thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue or enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof. An attorney of record is authorized and requested by the execution of this assignment to insert into this assignment the filing date and serial number of said application when officially known.

PATENT REEL: 022643 FRAME: 0744 S-112,882

AND the ASSIGNOR(S) requests the Commissioner of Patents and Trademarks to issue said Letters Patent of the United States and any reissue or extension thereof to the ASSIGNEE, Los Alamos National Security, LLC.

executed this

10 day of April , 2009

Signature of Inventor(s)

Cristian Pantea

2

PATENT REEL: 022643 FRAME: 0745

RECORDED: 05/05/2009