

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5413906

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY AGREEMENT

**CONVEYING PARTY DATA**

Name	Execution Date
MIRION TECHNOLOGIES (CANBERRA), INC.	03/08/2019
MIRION TECHNOLOGIES (IMAGING), LLC	03/08/2019
MIRION TECHNOLOGIES (IST) CORPORATION	03/08/2019
MIRION TECHNOLOGIES, INC.	03/08/2019

**RECEIVING PARTY DATA**

<b>Name:</b>	MORGAN STANLEY SENIOR FUNDING, INC., AS COLLATERAL AGENT
<b>Street Address:</b>	1300 THAMES STREET, 4TH FLOOR
<b>Internal Address:</b>	THAMES STREET WHARF
<b>City:</b>	BALTIMORE
<b>State/Country:</b>	MARYLAND
<b>Postal Code:</b>	21231

**PROPERTY NUMBERS Total: 45**

Property Type	Number
Patent Number:	6228664
Patent Number:	6369393
Patent Number:	6509563
Patent Number:	6522984
Patent Number:	6587003
Patent Number:	6844791
Patent Number:	7005646
Patent Number:	7049598
Patent Number:	7123176
Patent Number:	7274013
Patent Number:	7432518
Patent Number:	7462837
Patent Number:	7470913
Patent Number:	7725281
Patent Number:	7888631
Patent Number:	7957939

PATENT

Property Type	Number
Patent Number:	8039810
Patent Number:	8044366
Patent Number:	8227761
Patent Number:	8335670
Patent Number:	8421172
Patent Number:	8666711
Patent Number:	8748838
Patent Number:	8901503
Patent Number:	9012865
Patent Number:	9040925
Patent Number:	9040932
Patent Number:	9366768
Patent Number:	9269847
Patent Number:	9417342
Patent Number:	10139496
Patent Number:	6112530
Patent Number:	7535006
Patent Number:	7541590
Application Number:	15756667
Patent Number:	6667761
Patent Number:	7184076
Patent Number:	8695946
Patent Number:	9134430
Patent Number:	8841622
Patent Number:	9151848
Patent Number:	9746564
Patent Number:	9645256
Application Number:	14815750
Patent Number:	10048389

#### CORRESPONDENCE DATA

Fax Number: (800)914-4240

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

Phone: 800-713-0755

Email: Michael.Violet@wolterskluwer.com

Correspondent Name: CT CORPORATION

Address Line 1: 4400 EASTON COMMONS WAY

Address Line 2: SUITE 125

Address Line 4: COLUMBUS, OHIO 43219

**PATENT**

**REEL: 048556 FRAME: 0422**

<b>NAME OF SUBMITTER:</b>	DORIS KA
<b>SIGNATURE:</b>	/Doris Ka/
<b>DATE SIGNED:</b>	03/11/2019
<b>Total Attachments: 13</b> source=25d. Patent Security Agreement#page1.tif source=25d. Patent Security Agreement#page2.tif source=25d. Patent Security Agreement#page3.tif source=25d. Patent Security Agreement#page4.tif source=25d. Patent Security Agreement#page5.tif source=25d. Patent Security Agreement#page6.tif source=25d. Patent Security Agreement#page7.tif source=25d. Patent Security Agreement#page8.tif source=25d. Patent Security Agreement#page9.tif source=25d. Patent Security Agreement#page10.tif source=25d. Patent Security Agreement#page11.tif source=25d. Patent Security Agreement#page12.tif source=25d. Patent Security Agreement#page13.tif	

RECORDATION FORM COVER SHEET  
**PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

see attached addendum

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s) March 8, 2019

- ☐ Assignment ☐ Merger  
☒ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

**2. Name and address of receiving party(ies)**

Name: Morgan Stanley Senior Funding, Inc., as Collateral agent

Internal Address: Thames Street Wharf

Street Address: 1300 Thames Street, 4th Floor

City: Baltimore

State: MD

Country: USA Zip: 21231

Additional name(s) & address(es) attached? ☐ Yes ☒ No

**4. Application or patent number(s):**

☐ This document serves as an Oath/Declaration (37 CFR 1.63).

A. Patent Application No.(s)

see the attached Schedule A

B. Patent No.(s)

see the attached Schedule A

Additional numbers attached? ☒ Yes ☐ No

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Doris Ka, Sr. Paralegal (IP)

Internal Address: Cahill Gordon & Reindel LLP

Street Address: 80 Pine Street

City: New York

State: NY Zip: 10005

Phone Number: (212) 701-3569

Docket Number: 16270.1250

Email Address: dka@cahill.com

**6. Total number of applications and patents involved:** 45

**7. Total fee (37 CFR 1.21(h) & 3.41) \$** \_\_\_\_\_

- ☐ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

**8. Payment Information**

Deposit Account Number \_\_\_\_\_

Authorized UserName \_\_\_\_\_

**9. Signature:**



Signature

March 8, 2019

Date

Doris Ka

Name of Person Signing

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

13

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

# ITEM 1 (cont'd) to Patents Recordation Form Cover Sheet

## Conveying Parties

	<b>Entity</b>	<b>Address</b>	<b>Type of Entity</b>	<b>Jurisdiction</b>
1.	Mirion Technologies (Canberra), Inc.	800 Research Parkway Meridan, CT 06450 USA	Corporation	Delaware
2.	Mirion Technologies (Imaging), LLC	315 Daniel Zenker Dr. 200 IST Center Horseheads, NY 14845 USA	Limited Liability Company	Delaware
3.	Mirion Technologies (IST) Corporation	315 Daniel Zenker Dr. 200 IST Center Horseheads, NY 14845 USA	Corporation	New York
4.	Mirion Technologies, Inc.	Bishop Ranch 8 3000 Executive Parkway, Suite 222 San Ramon, CA 94583 USA	Corporation	Delaware

## ITEM 2

## Receiving Party

	<b>Entity</b>	<b>Address</b>	<b>Type of Entity</b>	<b>Jurisdiction</b>
1.	Morgan Stanley Senior Funding, Inc., as Collateral Agent	Thames Street Wharf 1300 Thames Street, 4th Floor Baltimore, MD 21231	Bank	USA

GRANT OF SECURITY INTEREST IN PATENT RIGHTS

This GRANT OF SECURITY INTEREST IN PATENT RIGHTS (this “Agreement”), dated as of March 8, 2019, is made by Mirion Technologies (Canberra) Inc. (f/k/a Canberra Industries, Inc.), a Delaware corporation, Mirion Technologies (Imaging), LLC, a Delaware limited liability company, Mirion Technologies, Inc., a Delaware corporation and Mirion Technologies (IST) Corporation, a New York corporation (each, a “Grantor”), in favor of Morgan Stanley Senior Funding, Inc., as collateral agent (in such capacity, together with its successors and assigns, the “Collateral Agent”) for the several banks and other financial institutions (the “Lenders”) from time to time parties to the Credit Agreement, dated as of March 8, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “Credit Agreement”), among Mirion Technologies (HoldingRep), Ltd., a limited liability company incorporated in England and Wales with company number 9299670 (“Holdings”), Mirion Technologies (Global), Ltd., a limited liability company incorporated in England and Wales with company number 9300420 (“Intermediate UK Holdings”), Mirion Technologies (USA), LLC, a Delaware limited liability company (“Merger Sub Parent”), Mirion Technologies (Luxembourg) S.à r.l., a société à responsabilité limitée incorporated under the laws of Luxembourg, having its registered office at 6, rue Eugène Ruppert, L-2453 Luxembourg, and registered with the Luxembourg Trade and Companies Register under number B222380 (the “Parent Borrower”), Mirion Technologies, Inc., a Delaware corporation (the “U.S. Subsidiary Borrower”) and together with the Parent Borrower, the “Borrowers”), the Lenders from time to time party thereto and Morgan Stanley Senior Funding, Inc., as the Administrative Agent, the Collateral Agent and a Letter of Credit Issuer.

WITNESSETH:

WHEREAS, pursuant to the Credit Agreement, the Lenders have severally agreed to make loans to the Borrowers and the Letter of Credit Issuers have agreed to issue Letters of Credit for the account of Intermediate UK Holdings, the Borrowers and the other Restricted Subsidiaries, and one or more Lenders or Affiliates of Lenders may enter into (x) Secured Cash Management Agreements with Holdings, Intermediate UK Holdings, the Parent Borrower and/or their Restricted Subsidiaries or (y) Secured Hedge Agreements with the applicable Borrower and/or any Restricted Subsidiary;

WHEREAS, in connection with the Credit Agreement, each Grantor and any Subsidiaries that become a party thereto, have executed and delivered a Security Agreement, dated as of March 8, 2019 in favor of the Collateral Agent (together with all amendments and modifications, if any, from time to time thereafter made thereto, the “Security Agreement”);

WHEREAS, pursuant to the Security Agreement, each Grantor has pledged and granted to the Collateral Agent for the benefit of the Collateral Agent and the Secured Parties continuing security interest in all of its Intellectual Property, including its Patents, that is not Excluded Property; and

NOW THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, and in order to induce the Lenders to make loans and the Letter of Credit Issuers to issue Letters of Credit for the account of Intermediate UK Holdings, the Borrowers and the other Restricted Subsidiaries, and to induce one or more Lenders or Affiliates of Lenders to enter into (x) Secured Cash Management Agreements with Holdings, Intermediate UK Holdings, the Parent Borrower and/or their Restricted Subsidiaries or (y) Secured Hedge Agreements with the applicable Borrower and/or any Restricted Subsidiary, Grantor agrees, for the benefit of the Collateral Agent and the Secured Parties, as follows:

1. Definitions. Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided or provided by reference in the Credit Agreement and the Security Agreement, as applicable.

2. Grant of Security Interest. Grantor hereby grants a security interest in all of Grantor's right, title and interest in, to and under its Patents that are not Excluded Property (including, without limitation, those items listed on Schedule A hereto), including all Proceeds of any and all of the foregoing (collectively, the "Collateral"), to the Collateral Agent for the benefit of the Secured Parties as collateral security for payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of the Obligations.

3. Purpose. This Agreement has been executed and delivered by Grantor for the purpose of recording the grant of security interest herein with the United States Patent and Trademark Office. The security interest granted hereby has been granted to the Secured Parties in connection with the Security Agreement and is expressly subject to the terms and conditions thereof. The Security Agreement (and all rights and remedies of the Secured Parties thereunder) shall remain in full force and effect in accordance with its terms.

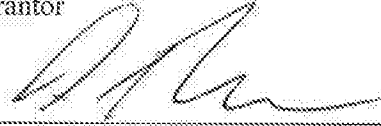
4. Acknowledgment. Grantor does hereby further acknowledge and affirm that the rights and remedies of the Collateral Agent and the other Secured Parties with respect to the security interest in the Collateral granted hereby are more fully set forth in the Credit Agreement and the Security Agreement, the terms and provisions of which (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein. In the event of any conflict between the terms of this Agreement and the terms of the Security Agreement, the terms of the Security Agreement shall govern.

5. Counterparts. This Agreement may be executed in counterparts, each of which will be deemed an original, but all of which together constitute one and the same original.

6. Governing Law: This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

MIRION TECHNOLOGIES, INC.,  
as the Grantor

By:



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Name: Anthony A. Rabb  
Title: Chief Financial Officer

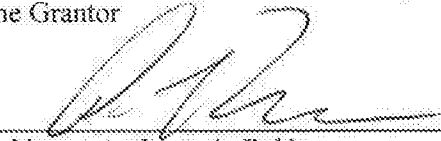
[Grant of Security Interest in Patent Rights]

**PATENT**  
**REEL: 048556 FRAME: 0428**



MIRION TECHNOLOGIES (IMAGING), LLC,  
as the Grantor

By:

A handwritten signature in black ink, appearing to read 'A. Rabb', is written over a horizontal line.

Name: Anthony A. Rabb

Title: Chief Financial Officer

[Grant of Security Interest in Patent Rights]

**PATENT**  
**REEL: 048556 FRAME: 0429**

MIRION TECHNOLOGIES (CANBERRA), INC.,  
as the Grantor

By:



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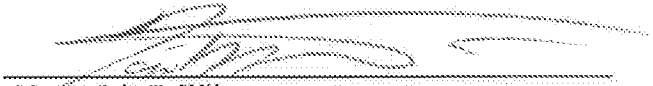
Name: Anthony A. Rabb  
Title: Chief Financial Officer

[Grant of Security Interest in Patent Rights]

**PATENT**  
**REEL: 048556 FRAME: 0430**

MIRION TECHNOLOGIES (IST) CORPORATION,  
as the Grantor

By:

A handwritten signature in dark ink, appearing to read 'Jain F. Wilson', is written over a horizontal line.


Name: Jain F. Wilson  
Title: Director

[Grant of Security Interest in Patent Rights]

**PATENT**  
**REEL: 048556 FRAME: 0431**

MORGAN STANLEY SENIOR FUNDING, INC.,  
as the Collateral Agent

By:

Name:  \_\_\_\_\_  
Jordan Ransom

Title: Authorized Signatory

[Grant of Security Interest in Patent Rights]

## SCHEDULE A

### U.S. Patent Registrations and Applications

Owner/ Assignee	Title	Patent Number	Issue Date	Application Number
Mirion Technologies (Canberra), Inc.	Calibration method for radiation spectroscopy	6,228,664	5/8/2001	09/355,668
Mirion Technologies (Canberra), Inc.	Digital pulse de-randomization for radiation spectroscopy	6,369,393	04/09/2002	09/530,532
Mirion Technologies (Canberra), Inc.	Method for reduction in the interference of cosmic ray-induced neutron events in passive neutron coincidence and multiplicity counting	6,509,563	1/21/2003	09/509,618
Mirion Technologies (Canberra), Inc.	Instant pole-zero corrector for digital radiation spectrometers and the same with automatic attenuator calibration	6,522,984	2/18/2003	09/607,715
Mirion Technologies (Canberra), Inc.	Charge sensitive preamplifier with pulsed source reset	6,587,003	7/1/2003	09/836,721
Mirion Technologies (Canberra), Inc.	Digital pulse shaper with variable weighting function	6,844,791	1/18/2005	10/344,877
Mirion Technologies (Canberra), Inc.	Stabilized scintillation detector for radiation spectroscopy and method	7,005,646	2/28/2006	10/625,920
Mirion Technologies (Canberra), Inc.	Stabilized scintillation detector for radiation spectroscopy and method	7,049,598	5/23/2006	10/848,660
Mirion Technologies (Canberra), Inc.	Digital peak detector with noise threshold and method	7,123,176	10/17/06	10,089,923
Mirion Technologies (Canberra), Inc.	Automatic gain adjust utility for radiation spectrometers	7,274,013	9/25/2007	10/461,760
Mirion Technologies (Canberra), Inc.	Entrance window for gas filled radiation detectors	7,432,518	10/7/2008	10/657,861
Mirion Technologies (Canberra), Inc.	Nuclide identifier system	7,462,837	12/9/2008	11/661,221

Owner/ Assignee	Title	Patent Number	Issue Date	Application Number
Mirion Technologies (Canberra), Inc.	High efficiency and high homogeneity large-area gas-filled radiation detector	7,470,913	12/30/2008	11/583,482
Mirion Technologies (Canberra), Inc.	Method for pole-zero adjustment in radiation measurement systems	7,725,281	5/25/2010	12/004,128
Mirion Technologies (Canberra), Inc.	Shielded source detection and activity correction system	7,888,631	2/15/2011	12/067,609
Mirion Technologies (Canberra), Inc.	Maximum entropy signal detection method	7,957,939	6/7/2011	11/883,201
Mirion Technologies (Canberra), Inc.	Scintillation-based continuous monitor for beta-emitting radionuclides in a liquid medium	8,039,810	10/18/2011	12/408,512
Mirion Technologies (Canberra), Inc.	Method for the determination of the neutron multiplicity counter dead time parameter	8,044,366	10/25/2011	11/777,880
Mirion Technologies (Canberra), Inc.	True coincidence summing correction and total efficiency computation for radionuclide spectroscopy analysis	8,227,761	7/24/2012	12/561,949
Mirion Technologies (Canberra), Inc.	Probabilistic uncertainty estimator	8,335,670	12/18/2012	12/29,3343
Mirion Technologies (Canberra), Inc.	Simplified silicon drift detector and wraparound neutron detector	8,421,172	4/16/2013	12/838,267
Mirion Technologies (Canberra), Inc.	Radiation analysis system and method	8,666,711	3/4/2014	13/674,649
Mirion Technologies (Canberra), Inc.	Body self-shielding background compensation for contamination monitors based on anthropometrics	8,748,838	6/10/2014	13/297,379
Mirion Technologies (Canberra), Inc.	Radiation detector and system and method	8,901,503	12/2/2014	13/451,102
Mirion Technologies (Canberra), Inc.	Radiation detector and system and method	9,012,865	4/21/2015	13/461,184

Owner/ Assignee	Title	Patent Number	Issue Date	Application Number
Mirion Technologies (Canberra), Inc.	Spatially-aware radiation probe	9,040,925	5/26/2015	13/749,944
Mirion Technologies (Canberra), Inc.	Surface contamination monitoring system and method	9,040,932	5/26/2015	13/676,781
Mirion Technologies (Canberra), Inc.	Radiation detector system and method	9,366,768	6/14/2016	14/508,730
Mirion Technologies (Canberra), Inc.	Small anode germanium (SAGe) well radiation detector system and method	9,269,847	2/23/2016	13/832,906
Mirion Technologies (Canberra), Inc.	Nuclide decay discriminator system and method	9,417,342	8/16/2016	14/635,575
Mirion Technologies (Canberra), Inc.	Multi-radiation identification and dosimetry system and method	10,139,496	11/27/2018	14/963,504
Canberra Industries, Inc. (n/k/a Mirion Technologies (Canberra), Inc.)	Non-linear thermal coupling for cryogenic coolers	6,112,530	9/5/2000	09/261,704
Mirion Technologies (Canberra), Inc.	Gaseous uranium hexafluoride isotope measurement by diode laser spectroscopy	7,535,006	5/19/2009	10/457,646
Mirion Technologies (Canberra), Inc.	Extending the dynamic range of the TGS through the use of a dual intensity transmission beam	7,541,590	6/2/2009	11/777,860
Mirion Technologies (Canberra) Inc.	Portable real time in-situ gamma-ray analysis system		3/1/2018 (Filing Date)	15/756,667
Mirion Technologies (Imaging), LLC	Instrument visualization system	6,667,761	12/23/2003	09/549,363
Mirion Technologies (Imaging), LLC	Fluid-powered inspection camera	7,184,076	2/27/2007	09/915,126
Mirion Technologies (IST) Corporation	Replaceable suspension assembly and method of attachment	8,695,946	4/15/2014	12/999,613
Mirion Technologies, Inc.	Dosimetry apparatus, systems, and methods	9,134,430	9/15/2015	12/936,357
Mirion Technologies, Inc.	Dosimetry apparatus, systems, and methods	8,841,622	9/23/2014	13/966,201

Owner/ Assignee	Title	Patent Number	Issue Date	Application Number
Mirion Technologies, Inc.	Dosimetry System, Methods, and Components	9,151,848	10/6/2015	13/326,215
Mirion Technologies, Inc.	Dosimetry system, methods, and components	9,746,564	8/29/2017	14/080,734
Mirion Technologies, Inc.	Radiation detector and method	9,645,256	5/9/2017	14/773,711
Mirion Technologies, Inc.	Dosimetry apparatus, systems, and methods			14/815,750
Mirion Technologies (Canberra), Inc.	Centroid contact radiation detector system and method	10,048,389	8/14/2018	15/491,709