

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7596522

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
DANA GEISLINGER	08/23/2022
TRAVIS GADDIE	08/22/2022
MARGARET ALDEN TINSLEY	08/25/2022
MUNEEB ALAM	09/13/2022
STEVEN CHAD RICHARDSON	10/12/2022
AKAASH SANYAL	08/30/2022
RAQUEL CROSSMAN	08/24/2022
TIANFANG NI	09/11/2022
CORY A. DEMIEVILLE	08/23/2022
LUKE GERDES	09/13/2022
ROBYN FREEMAN	09/13/2022
OLEKSANDR KLESOV	09/13/2022
LUCIANO KINITI ISSOE	09/20/2022
RECEIVING PARTY DATA	
Name:	FREEPORT MINERALS CORPORATION
Street Address:	333 NORTH CENTRAL AVENUE
City:	PHOENIX
State/Country:	ARIZONA
Postal Code:	85004
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	17850834
CORRESPONDENCE DATA	
Fax Number:	(602)382-6070
<i>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.</i>	
Phone:	602-382-6314
Email:	ipdocket@swlaw.com, chauff@swlaw.com, matanacio@swlaw.com
Correspondent Name:	SNELL & WILMER L.L.P.
Address Line 1:	1 EAST WASHINGTON STREET

PATENT

Address Line 2: CHARLES F. HAUFF, JR.
Address Line 4: PHOENIX, ARIZONA 85004

ATTORNEY DOCKET NUMBER: 97112.13000

NAME OF SUBMITTER: CHARLES F. HAUFF, JR.

SIGNATURE: /Charles F. Hauff, Jr./

DATE SIGNED: 10/18/2022

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

Total Attachments: 39

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**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET**

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
Title:	SYSTEM AND METHOD FOR ADJUSTING LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA	Confirmation No.:	6433

Pursuant to 35 U.S.C.115(e), Applicant submits for recordation this combined declaration and assignment.

Declaration

As the below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I acknowledge that a person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

Assignment

WHEREAS, the undersigned inventor ("ASSIGNOR") has invented the subject matter disclosed and/or claimed in the captioned patent application;

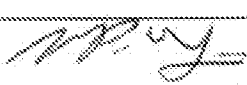
AND WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer

unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
DANA GEISLINGER		8/23/2012

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

Attorney Docket No.: 97112.13000

STATE OF Arizona

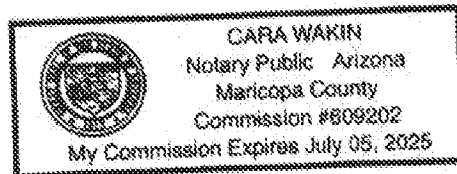
County of Maricopa

) ss.

On this 23 day of August, 2022, before me, a notary public in and for said county, appeared Dana Geislinger, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

[Signature]
Notary Public

07/05/2025
Commission Expires



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AND TRADEMARK OFFICE**
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I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

Assignment

WHEREAS, the undersigned inventor ("ASSIGNOR") has invented the subject matter disclosed and/or claimed in the captioned patent application;

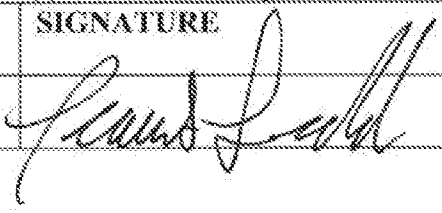
AND WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer

unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

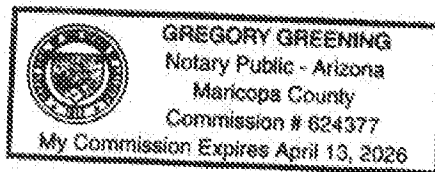
INVENTOR'S LEGAL NAME	SIGNATURE	DATE
TRAVIS GADDIE		06/22/22

STATE OF Arizona)
County of Maricopa) ss.:

On this 22 day of August, 2022, before me, a notary public in and for said county, appeared Travis Gaddie, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

[Signature]
Notary Public

4/13/2026
Commission Expires



**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
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I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

Assignment

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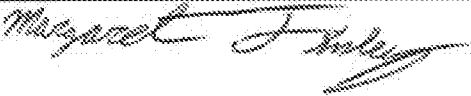
AND WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer

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AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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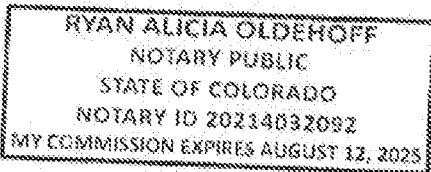
INVENTOR'S LEGAL NAME	SIGNATURE	DATE
MARGARET ALDEN TINSLEY		8/25/2022

STATE OF Colorado)
County of Eagle) ss.:

On this 25 day of August, 2022, before me, a notary public in and for said county, appeared Margaret Alden Tinsley, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and she acknowledged that she signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

[Signature]
Notary Public

8/12/25
Commission Expires



**IN THE UNITED STATES PATENT
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WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein;

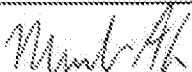
AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the Inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
MUNEEB ALAM		9-13-22

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

Attorney Docket No.: 97112.13000

STATE OF Arizona)
County of Maricopa) ss.:

On this 13 day of September, 2022, before me, a notary public in and for said county, appeared Muneeb Alam, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Stephanie Reninger
Notary Public

12-4-2025
Commission Expires



**IN THE UNITED STATES PATENT
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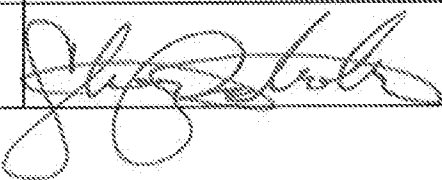
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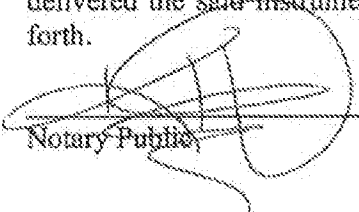
INVENTOR'S LEGAL NAME	SIGNATURE	DATE
STEVEN CHAD RICHARDSON		10-12-2022

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

Attorney Docket No.: 97112.13000

STATE OF Arizona)
County of Greenlee) ss.:

On this 12th day of October, 2022, before me, a notary public in and for said county, appeared Steven Chad Richardson, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.


Notary Public



Commission Expires

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I acknowledge that a person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

Assignment

WHEREAS, the undersigned inventor ("ASSIGNOR") has invented the subject matter disclosed and/or claimed in the captioned patent application;

WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein;

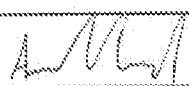
AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the Inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
AKAASH SANYAL		8/30/2022

**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET**

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
Title:	SYSTEM AND METHOD FOR ADJUSTING LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA	Confirmation No.:	6433

Pursuant to 35 U.S.C.115(e), Applicant submits for recordation this combined declaration and assignment.

Declaration

As the below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I acknowledge that a person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer

unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

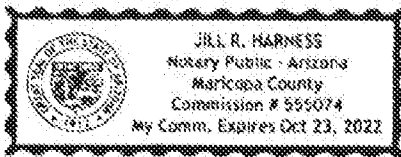
INVENTOR'S LEGAL NAME	SIGNATURE	DATE
RAQUEL CROSSMAN		8/24/22

STATE OF Arizona)
County of Maricopa) ss.:

On this 24th day of August, 2022, before me, a notary public in and for said county, appeared Raquel Crossman, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and she acknowledged that she signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Jill R. Harness
Notary Public

10-23-22
Commission Expires



IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE
COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
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AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the

SNELL & WILMER LLP, 400 East Van Buren, Phoenix, Arizona 85004-2202, (p) (602) 382-6000, (f) (602) 382-6070
4834-2299-2423

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
TIANFANG NI		Sept 11, 2002

IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
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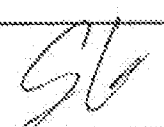
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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer

unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
CORY A. DEMIEVILLE		23-Aug-2022

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

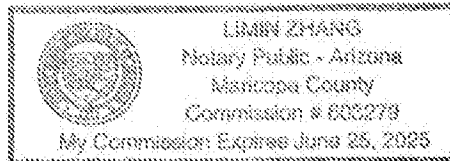
Attorney Docket No.: 97112.13000

STATE OF Arizona
County of Maricopa) ss.:

On this 23rd day of August, 2022, before me, a notary public in and for said county, appeared Cory A. Demieville, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

[Signature]
Notary Public

June 25, 2025
Commission Expires



**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET**

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
Title:	SYSTEM AND METHOD FOR ADJUSTING LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA	Confirmation No.:	6433

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Assignment

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AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the Inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
LUKE GERDES		4/13/2022

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

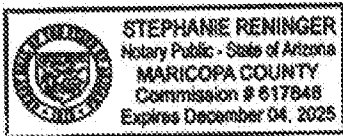
Attorney Docket No.: 97112.13000

STATE OF Arizona)
County of Maricopa) ss.:

On this 13 day of September, 2022, before me, a notary public in and for said county, appeared Luke Gerdes, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Stephanie Reninger
Notary Public

12-4-2025
Commission Expires



**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET**

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
Title:	SYSTEM AND METHOD FOR ADJUSTING LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA	Confirmation No.:	6433

Pursuant to 35 U.S.C.115(e), Applicant submits for recordation this combined declaration and assignment.

Declaration

As the below named inventor, I hereby declare that:

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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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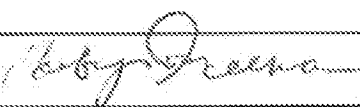
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EXECUTED as of the date(s) written below by DECLARANT/ASSIGNOR:

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
ROBYN FREEMAN		7/13/22

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

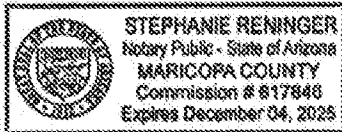
Attorney Docket No.: 97112.13000

STATE OF Arizona)
County of Maricopa) ss.:

On this 13 day of September, 2022, before me, a notary public in and for said county, appeared Robyn Freeman, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and she acknowledged that she signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Stephanie Reninger
Notary Public

12-1-2025
Commission Expires



**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
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First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
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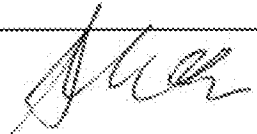
AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the Inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
OLEKSANDR KLESOV		09/13/2022

STATE OF Arizona)
County of Maricopa) ss.:

On this 13 day of September, 2022, before me, a notary public in and for said county, appeared Oleksandr Klesov, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Stephanie Reninger
Notary Public

12-4-2025
Commission Expires



IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET

First Named Inventor:	Dana Geislinger, et al.	Docket No.:	97112.13000
Serial No.:	17/850,834	Filing Date:	June 27, 2022
Title:	SYSTEM AND METHOD FOR ADJUSTING LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA	Confirmation No.:	6433

Pursuant to 35 U.S.C. 115(e), Applicant submits for recordation this combined declaration and assignment.

Declaration

As the below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I acknowledge that a person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.

Assignment

WHEREAS, the undersigned inventor ("ASSIGNOR") has invented the subject matter disclosed and/or claimed in the captioned patent application;

WHEREAS, FREEPORT MINERALS CORPORATION, an entity organized and existing under and by virtue of the laws of the State of Delaware, having a place of business and mailing address at 333 North Central Avenue, Phoenix, Arizona 85004 ("ASSIGNEE"), is desirous of obtaining an interest or memorializing its interest therein;

AND WHEREAS, the undersigned ASSIGNOR hereby confirms that ASSIGNOR is an employee, past employee or a contractor of ASSIGNEE and that ASSIGNOR developed the



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Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

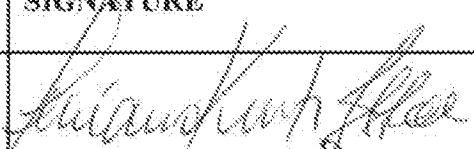
Attorney Docket No.: 97112.13000

Inventions on ASSIGNEE's time and at the expense of ASSIGNEE and within the scope of ASSIGNOR's duties to ASSIGNEE, and pursuant to an agreement to assign any inventions that ASSIGNOR made to ASSIGNEE, and thereby ASSIGNOR recognizes that the ASSIGNEE owns the Inventions. Nonetheless to comport with Patent and Trademark Office procedures, ASSIGNOR memorializes that relationship in the form of this assignment.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

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

INVENTOR'S LEGAL NAME	SIGNATURE	DATE
LUCIANO KINTI ISSOE		Sept 20, 2022

115
10/14/22

Carla Cerquilho

Rua João Cerquilho, 117A | Centro
Cerro Alto | SP | Tel: (13) 5054-1200
Linha aberta para todos os departamentos

Reconheço por semelhança a(s) firma(s) de, 01 firma de
LUIZIANO VINICIUS ISSE, no documento seu valor econômico, do
que dou fé.
Cerro Alto, 20 de setembro de 2022. 1357298/174-30
R\$ 7,83. *[Assinatura]*

PPA CLAUDIA RODRIGUES VITAL
0232AA0124228 - F137



NOTAS E PROTESTOS
CERQUILHO-SP

ILHO-SP

Title of Invention: SYSTEM AND METHOD FOR ADJUSTING
LEACHING OPERATIONS BASED ON LEACH ANALYTIC DATA

Attorney Docket No.: 97112.13000

Country: BRAZIL

STATE OF São Paulo
County of Cerquilha ss.:

On this 20 day of setembro, 2022, before me, a notary public in and for said county, appeared Luciano Kiniti Issoe, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledged that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

Notary Public

VALESKA V. BARBOZA
TABELIA

Commission Expires

Luciano Kiniti Issoe

