

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

GREEN SOURCE HOLDINGS, LLC,
Plaintiff,

vs.

HALLIBURTON COMPANY AND
HALLIBURTON ENERGY SERVICES,
INC.,
Defendants.

Civil Action No. 2:19-cv-00268

JURY TRIAL DEMANDED

**GREEN SOURCE HOLDINGS, LLC'S SECOND AMENDED
COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff, Green Source Holdings, LLC ("Green Source") brings this Second Amended Complaint against Defendants Halliburton Company and Halliburton Energy Services, Inc. (collectively "Halliburton") for patent infringement. In support, Green Source shows as follows:¹

¹ Green Source's allegations relating to itself are based on personal knowledge, while Green Source's allegations relating to Halliburton are made upon information and belief.

I. THE PARTIES

1. Green Source is a Delaware limited liability company with its principal place of business in Texas.

2. Defendant Halliburton Company is a Delaware Corporation, which maintains at least four offices in this district, including: (1) 110 Industrial Dr., Longview, TX 75602, (2) 3800 Paluxy Drive, Suite 210, Tyler, TX 75703, (3) 2906 FM 349, Kilgore, TX 75662, and (4) 2601 E. Belt Line Rd., Carrollton, TX 75006. Halliburton Company has been served and made an appearance in the case.

3. Defendant Halliburton Energy Services, Inc. is a Delaware Corporation, which maintains at least four offices in this district, including: (1) 110 Industrial Dr., Longview, TX 75602, (2) 3800 Paluxy Drive, Suite 210, Tyler, TX 75703, (3) 2906 FM 349, Kilgore, TX 75662, and (4) 2601 E. Belt Line Rd., Carrollton, TX 75006. Halliburton Energy Services, Inc. has been served and made an appearance in the case.

II. JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Halliburton because it conducts business in this district, the State of Texas, and in the United States. This Court also has personal jurisdiction over Halliburton because it has committed acts of patent infringement, induced acts of patent infringement by others, contributed to

patent infringement by others, and/or advertised infringing products in this district, the State of Texas, and in the United States. Halliburton is subject to the Court's general jurisdiction from regularly doing or soliciting business in this district and Texas, as well as deriving substantial revenue from goods and services provided to persons or entities in this district and Texas.

6. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391 and 1400(b) because Halliburton has committed acts of infringement here and maintains at least four regular and established places of business in this district, including at least the following offices: (1) 110 Industrial Dr., Longview, TX 75602, (2) 3800 Paluxy Drive, Suite 210, Tyler, TX 75703, (3) 2906 FM 349, Kilgore, TX 75662, and (4) 2601 E. Belt Line Rd., Carrollton, TX 75006. By way of example of Halliburton's infringing acts in this District, Halliburton injects the Accused Products defined below (*See Exhibit A*) in the formations of the East Texas Basin located in this District during and after its fracking operations and also injects the Accused Products defined below in formations underneath the Gulf of Mexico off the shore from this district.

III. THE PATENTS-IN-SUIT AND STANDING

7. The United States Patent and Trademark Office duly and legally issued the following U.S. Patents after a full and fair examination, which are attached as exhibits and incorporated here by reference:

- U.S. Patent No. 8,101,812 (Exhibit B);
- U.S. Patent No. 8,272,442 (Exhibit C);
- U.S. Patent No. 8,404,107 (Exhibit D);
- U.S. Patent No. 8,522,876 (Exhibit E);
- U.S. Patent No. 8,685,234 (Exhibit F);
- U.S. Patent No. 9,181,468 (Exhibit G);
- U.S. Patent No. 8,404,108 (Exhibit H);
- U.S. Patent No. 9,102,864 (Exhibit I); and
- U.S. Patent No. 9,416,645 (Exhibit J).

These patents are referred to collectively hereafter as the “Asserted Patents.”

8. Green Source is the owner of all rights of and to the Asserted Patents and possesses all rights of recovery for past, present, and/or future infringement of the Asserted Patents.

IV. HALLIBURTON'S PATENT INFRINGEMENT

9. Green Source incorporates the preceding paragraphs by reference.

10. The Asserted Patents are valid and presumed valid under 35 U.S.C. § 282. The Asserted Patents are also enforceable.

11. Pursuant to 35 U.S.C. § 271(a), Halliburton has infringed one or more of the Asserted Patents' claims by making, using, offering for sale, selling, importing, and/or renting the following Halliburton products: (1) SuperFlo 2000, (2) OilPerm FMM-9, (3) OilPerm I, (4) OilPerm Fmm-9-21, and any variations of these products (collectively "Accused Products") for use with enhanced oil and gas recovery and enhanced flowback applications. *See Exhibit A.* As shown in Exhibit A, Halliburton appears to change the precise chemical composition of the Accused Products. But the Accused Products all have a Turpentine Liquid or Fluid as defined in the Asserted Patents, which comprises (at least in part) the various terpene chemicals described in Exhibit A.

12. Green Source currently asserts infringement of the patent claims in its Second Amended Disclosure of Asserted Claims and Infringement Contentions, which is enclosed as Exhibit K.

13. The below table contains an example² of an independent claim from each of the Asserted Patents:

² Green Source does not and will not limit its infringement allegations to these independent claims. These claims are merely provided as an illustrative example of one claim from each patent.

Pat. No. 8,101,812	Pat. No. 8,272,442	Pat. No. 8,404,107
<p>1. A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material, comprising the steps of:</p> <p>providing a first liquid consisting essentially of a turpentine liquid alone or a combination of a turpentine liquid and a turpentine-miscible second liquid wherein the ratio of said turpentine liquid to said turpentine-miscible liquid is greater than or equal to 1:1;</p> <p>contacting a hydrocarbon-containing material with said first liquid to form an extraction mixture;</p> <p>extracting said hydrocarbon material into said turpentine liquid; and</p> <p>separating said extracted hydrocarbon material from a residual material not extracted.</p>	<p>1. A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material, comprising a viscous liquid, liquid or gaseous fossil fuel material selected from heavy crude oil, crude oil, natural gas, or a combination thereof, the method comprising:</p> <p>providing a hydrocarbon-extracting liquid consisting essentially of turpentine liquid alone or a combination of a turpentine liquid and a turpentine-miscible second liquid;</p> <p>contacting heavy crude oil, crude oil, natural gas, or a combination thereof in-situ in an underground formation containing said fossil fuel material, with said hydrocarbon-extracting liquid, to form an extraction mixture so as to extract hydrocarbon-containing organic matter from said heavy crude oil, crude oil, natural gas, or a combination thereof into said hydrocarbon-extracting liquid and form an extraction liquid;</p>	<p>27. A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material selected from coal, oil shale, tar sands, crude oil, heavy crude oil, natural gas, or a combination thereof, the method comprising the steps of:</p> <p>contacting the hydrocarbon-containing material with α-terpineol such that an extraction mixture is formed and a residual material is formed, the extraction mixture comprising at least a portion of the hydrocarbon-containing organic matter extracted into said α-terpineol, the residual material comprising at least a portion of non-soluble material from the hydrocarbon-containing material that are not soluble in the α-terpineol; and</p> <p>separating the extraction mixture from the residual material.</p>

	removing said extraction liquid from said formation, the extraction liquid comprising said turpentine liquid containing the extracted hydrocarbon-containing organic matter; and separating said extracted hydrocarbon-containing organic matter from a residual material not extracted.	
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Pat. No. 8,522,876	Pat. No. 8,685,234	Pat. No. 9,181,468
1. A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material, comprising a fossil fuel material selected from oil shale, coal, sands, or a combination thereof, the method comprising: providing a hydrocarbon-extracting fluid consisting essentially of turpentine fluid alone or a combination of a turpentine fluid and a turpentine-miscible second fluid; contacting oil shale, coal, oil sands, or a combination thereof with said hydrocarbon-extracting fluid, to form an extraction or separation mixture so as to extract or separate hydrocarbon-containing organic matter from said	1. A method for increasing flowability of viscous or immobile hydrocarbon-containing materials in an underground formation, flow line, or storage tank comprising contacting a hydrocarbon-containing material selected from oil (tar) sands, oil shale, natural gas, petroleum gas, heavy crude oil and/or crude oil with a non-aqueous turpentine liquid in an underground formation, flow line, or storage tank; forming a mixture of non-aqueous turpentine liquid and hydrocarbon-containing material having decreased viscosity; and	1. A method for increasing flowability of viscous or immobile hydrocarbon-containing materials in an underground formation or a flow line comprising contacting a hydrocarbon-containing material selected from oil (tar) sands, oil shale, natural gas, petroleum gas, heavy crude oil and/or crude oil with a non-aqueous turpentine liquid in said underground formation or flow line; forming a mixture of non-aqueous turpentine liquid and hydrocarbon-containing material having decreased viscosity; and causing said mixture to flow as a one-phase liquid in said underground formation or flow line,

oil shale, coal, oil sands, or a combination thereof into said hydrocarbon-extracting fluid and form an extraction fluid comprising said turpentine fluid containing the extracted hydrocarbon-containing organic matter; and separating said extracted hydrocarbon-containing organic matter from a residual material not extracted.	causing said mixture to flow as a one-phase liquid in said underground formation, flow line, or storage tank; and wherein said non-aqueous turpentine liquid comprises α -terpineol, β -terpineol, or a combination thereof.	wherein said turpentine liquid comprises α -terpineol, β -terpineol, or a combination thereof.
Pat. No. 8,404,108	Pat. No. 9,102,864	Pat. No. 9,416,645
1. A method of extracting hydrocarbon-containing organic matter from a hydrocarbon-containing material, comprising the steps of extracting the hydrocarbon-containing organic matter by a process consisting essentially of: providing a substantially surfactant-free first liquid comprising a non-aqueous hydrocarbon-extracting liquid consisting essentially of a turpentine liquid selected from the group consisting of natural turpentine, synthetic turpentine, mineral turpentine, pine oil, α -pinene, β -pinene, α -terpineol, β -terpineol, γ -terpineol, terpene resins, α -terpene, β -terpene, γ -terpene, geraniol, 3-carene, dipentene (p-mentha-1,8-diene), nopol, pinane, 2-	1. A method for increasing recovery of hydrocarbon-containing organic matter from a production well coupled to a hydrocarbon-containing sub-surface formation, the subsurface formation comprising hydrocarbon-containing material by contacting the hydrocarbon-containing organic matter with a substantially surfactant-free non-aqueous hydrocarbon-extracting composition comprising the steps of: providing an injection well, said injection being in fluid communication with the sub-surface formation;	1. A method of inhibiting the corrosive and toxic effects of a reactive sulfur species in a sulfur-containing hydrocarbon containing material from a natural geological formation containing, comprising: providing a substantially surfactant-free, non-aqueous turpentine liquid selected from the group consisting of natural turpentine, synthetic turpentine, mineral turpentine, pine oil, α -pinene, β -pinene, α -terpineol, β -terpineol, γ -terpineol, terpene resins, α -terpene, β -terpene, γ -terpene, geraniol, 3-carene, dipentene (p-mentha-1,8-diene), nopol, pinane, 2-pinane hydroperoxide, terpin hydrate, 2-pinanol,

<p>pinane hydroperoxide, terpin hydrate, 2-pinanol, dihydromylenol, isoborneol, p-menthan-8-ol, α-terpinyl acetate, citronellol, p-menthan-8-yl acetate, 7-hydroxydihydrocitronellal, menthol, anethole, camphene; p-cymene, anisaldehyde, 3,7-dimethyl-1,6-octadiene, isobornyl acetate, ocimene, alloocimene, alloocimene alcohols, 2-methoxy-2,6-dimethyl-7,8-epoxyoctane, camphor, citral, 7-methoxydihydrocitronellal, 10-camphorsulphonic acid, cintronellal, menthone, and mixtures thereof; contacting the hydrocarbon-containing material with said hydrocarbon-extracting liquid such that an extraction mixture is formed, the extraction mixture comprising at least a portion of said hydrocarbon-containing organic matter extracted into the hydrocarbon-extracting liquid; and separating the extraction mixture from any residual material containing non-soluble material from the hydrocarbon-containing material that is not soluble in the hydrocarbon-extracting liquid.</p>	<p>providing said substantially surfactant-free non-aqueous hydrocarbon-extracting composition, wherein said composition consists essentially of a turpentine liquid; injecting the substantially surfactant-free non-aqueous hydrocarbon-extracting composition through the injection well and into the formation, wherein the substantially surfactant-free non-aqueous hydrocarbon-extracting composition and the hydrocarbon-containing organic matter from the hydrocarbon containing sub-surface formation form an extraction mixture comprising at least a portion of the hydrocarbon-containing organic matter extracted into turpentine liquid; recovering the extraction mixture from the formation through the production well; and separating the extraction mixture to produce a hydrocarbon product stream and a hydrocarbon-extracting liquid stream.</p>	<p>dihydromylenol, isoborneol, p-menthan-8-ol, α-terpinyl acetate, citronellol, p-menthan-8-yl acetate, 7-hydroxydihydrocitronellal, menthol, anethole, camphene; p-cymene, anisaldehyde, 3,7-dimethyl-1,6-octadiene, isobornyl acetate, ocimene, alloocimene, alloocimene alcohols, 2-methoxy-2,6-dimethyl-7,8-epoxyoctane, camphor, citral, 7-methoxydihydrocitronellal, 10-camphorsulphonic acid, cintronellal, menthone, and mixtures thereof; contacting the sulfur-containing hydrocarbon-containing material with the substantially surfactant-free, non-aqueous turpentine liquid such that at least a portion of the reactive sulfur species from said sulfur-containing hydrocarbon containing material is extracted into the substantially surfactant-free, non-aqueous turpentine liquid from the natural geological formation; and recovering hydrocarbon containing material from which reactive sulfur species has been removed such that the corrosive and toxic effects of reactive sulfur species in</p>
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		the hydrocarbon containing material is inhibited.
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14. As described in the above example claims, the use of Halliburton's Accused Products meets each and every limitation of each of these claims. Halliburton is one of the largest oilfield service companies in the United States engaged in the business of fracturing ("fracking") and completing wellbores. Halliburton maintains a YouTube channel, where it posts animations showing how Halliburton fracks a well. Two examples of these videos include the following, which are incorporated here by reference:

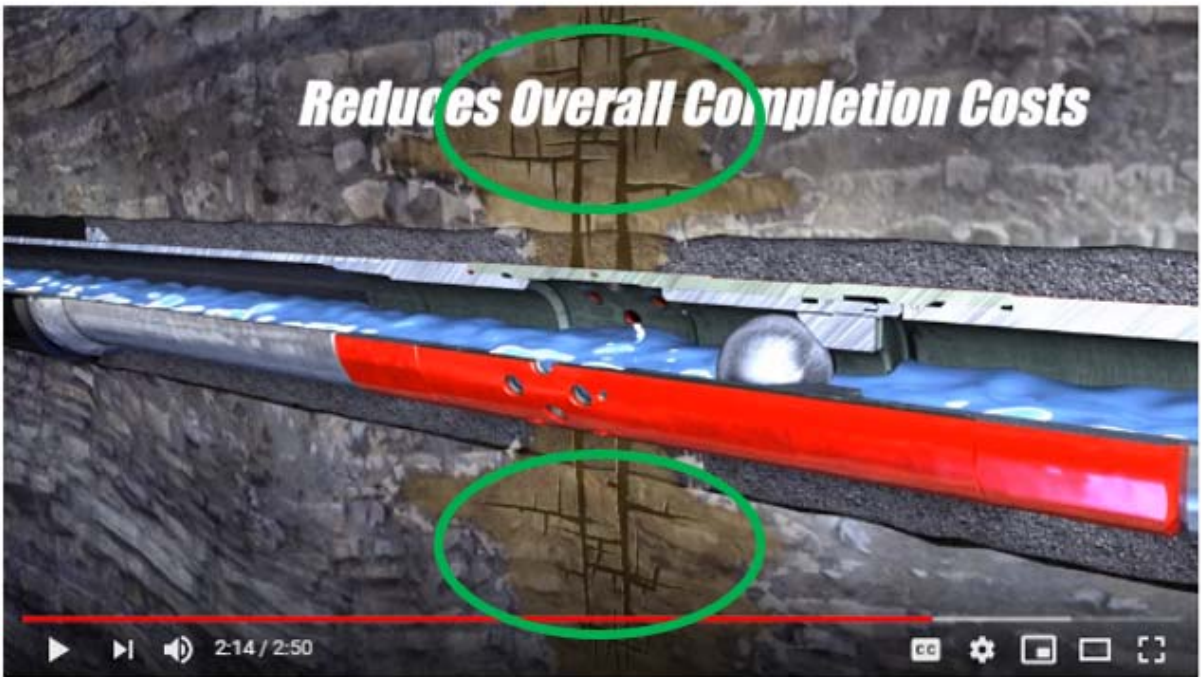
1. <https://www.youtube.com/watch?v=KpVGfGYiF1w&t=2s>, and
2. <https://www.youtube.com/watch?v=g7ciZ5JC44k>.

15. The goal of Halliburton's fracking operations is to fracture the downhole formation to create cracks in the formation, as demonstrated in the below screenshots from Halliburton's videos with the fractures shown in the green circle annotations:

YouTube

halliburton rapidstage sleeve

Reduces Overall Completion Costs



2:14 / 2:50

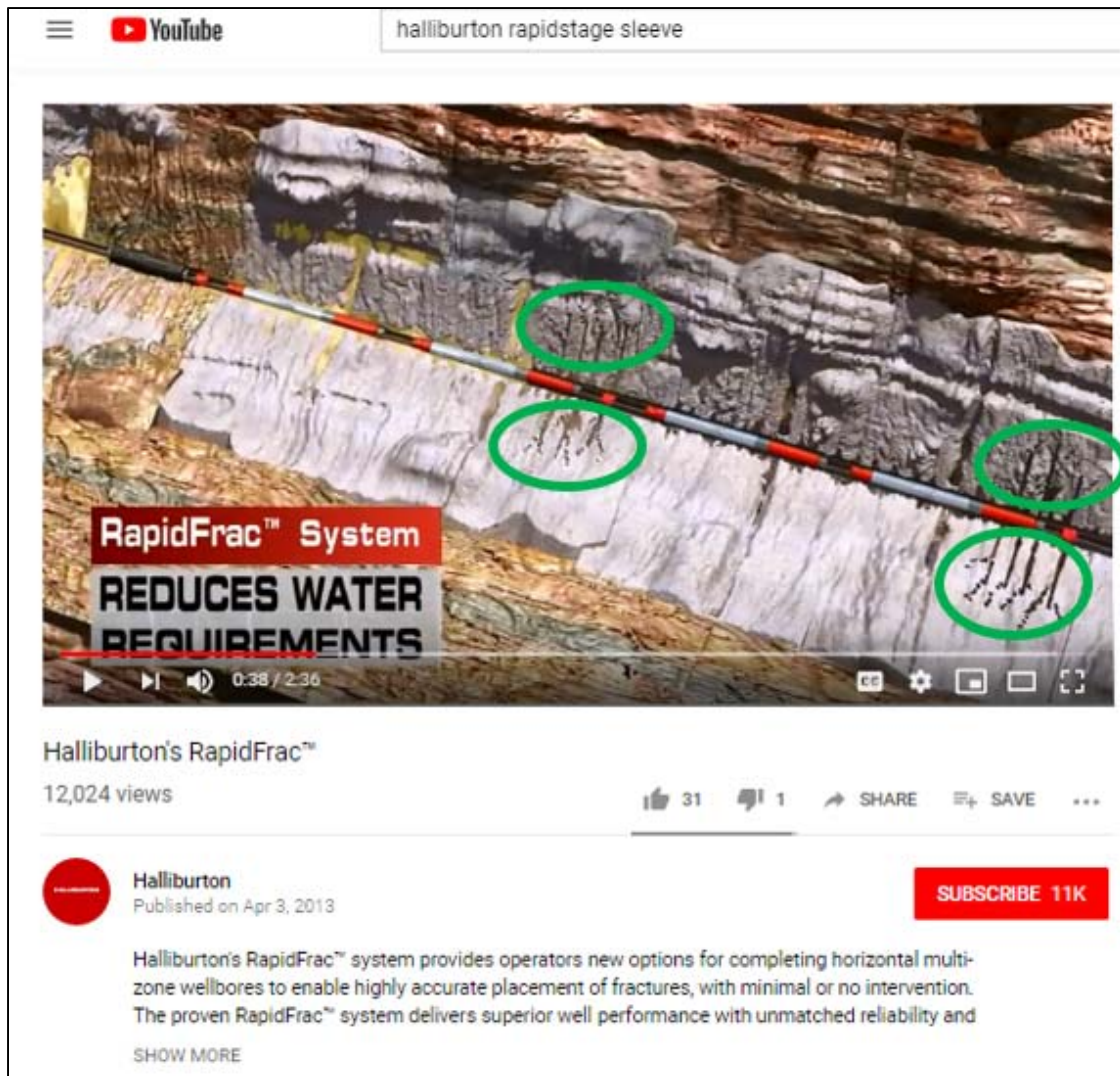
Isolate and Monitor Multiple Zones During Stimulation and Production Operations

2,502 views

8 1 SHARE SAVE ...

Halliburton
Published on Nov 12, 2014

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16. During or after Halliburton creates the above fracks in the formation, Halliburton injects the Accused Products into the oil and gas formation so they can come in contact with desirable hydrocarbon containing material in the underground formations, such as oil or natural gas. Halliburton's Accused Products are then used to extract the desirable hydrocarbons from this underground material by separating the desirable materials from a residual material (such as shale rock), which is not extracted.

17. As described above, Halliburton's use of the Accused Products in oilfield formations for enhanced oil and gas recovery applications and to increase flowability from underground formations by decreasing viscosity "meet[s] each and every element of at least one claim of the [Asserted Patents], either literally or equivalently."³

18. Additionally and/or alternatively, pursuant to 35 U.S.C. § 271(b) & (c), Halliburton has contributed to and/or induced infringement by direct and indirect third party customers by marketing, promoting (including providing instructions for use), selling, offering for sale, importing, and/or renting its Accused Products, which fall within the scope of one or more of the Asserted Patents' claims, to these customers. At all relevant time periods, Halliburton had the requisite intent to be held liable for indirect infringement, including, but not limited to, having actual knowledge of the Asserted Patents and instructing its third party customers on the use of Halliburton's processes and products in an infringing manner.

19. Halliburton's acts of infringement have caused and will continue to cause Green Source damage. Halliburton is liable to Green Source in an amount that adequately compensates Green Source for Halliburton's infringement, which can be no less than a reasonable royalty together with interest and costs pursuant to 35 U.S.C. § 284.

³ This quoted language traces the language cited by the Federal Circuit as adequate to plead a cause of action for infringement. *See Disc Disease Sols. Inc. v. VGH Sols., Inc.*, 888 F.3d 1256, 1260 (Fed. Cir. May 1, 2018).

20. Green Source's damage will continue unless and until enjoined by this Court. These infringing acts have caused and will continue to cause immediate and irreparable harm for which there is no adequate remedy at law.

21. Halliburton's infringement of the Asserted Patents has been willful pursuant to 35 U.S.C. § 284, entitling Green Source to enhanced damages. During all relevant time periods, Halliburton had knowledge of the Asserted Patents and chose to commit egregious acts of infringement of the Asserted Patents despite this knowledge.

22. This is an exceptional case pursuant to 35 U.S.C. § 285, entitling Green Source to its attorneys' fees and other litigation costs.

V. JURY DEMAND

23. Pursuant to Fed. R. Civ. P. 38, Green Source demands a jury trial of all issues so triable.

VI. PRAYER FOR RELIEF

24. WHEREFORE, Green Source prays for the following relief from the Court and Jury:

a. That the Asserted Patents be adjudged infringed by Halliburton under all applicable provisions of Title 35, United States Code;

b. That Halliburton, its officers, directors, employees, agents and all those acting in concert with Halliburton be enjoined, pursuant to 35 U.S.C. §283, from all future activities infringing the Asserted Patents, and/or inducing or contributing to the infringement of the Asserted Patents by others, including making, using, selling or offering for sale the claimed subject matter of the Asserted Patents;

c. That Halliburton be required to prepare and deliver to the Court a complete list of entities to whom Halliburton has sold or offered for sale any product that infringes the Asserted Patents;

d. That Halliburton be ordered to account to Green Source for all sales, revenues, and profits derived from its infringement of the Asserted Patents, pursuant to all applicable provisions of Title 35, United States Code;

e. That this Court hold Halliburton liable for its infringement and award Green Source its actual and compensatory damages, costs, expenses, and fees resulting from Halliburton's infringing activities, as provided by 35 U.S.C. § 284;

f. That this Court award Green Source prejudgment interest, post judgment interest, and costs of Court;

g. That this Court order that damages so found or assessed be enhanced or trebled as a result of Halliburton's willful, deliberate, wanton, and/or reckless infringement, as provided by 35 U.S.C. § 284;

h. That this Court order that, because this is an exceptional case, Green Source be awarded its reasonable and necessary attorneys' fees and other litigation costs incurred in connection with this action, as provided for by 35 U.S.C. § 285; and

i. That Green Source be awarded such other and further relief as may be just and appropriate.

Date: March 16, 2020

Respectfully submitted,

/s/Bradford T. Laney
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**ATTORNEY FOR PLAINTIFF
GREEN SOURCE HOLDINGS, LLC**

CERTIFICATE OF SERVICE

The undersigned attorney certifies that he has served this document on all counsel of record via the ECF/PACER system.

/s/Bradford T. Laney
Bradford T. Laney