

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

U.S. Well Services, Inc., and  
U.S. Well Services, LLC,

Plaintiffs,

v.

Halliburton Company, and  
Cimarex Energy Co.,

Defendants.

Case No. 6:21-cv-00367-ADA

**JURY TRIAL DEMANDED**

**AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs U.S. Well Services, Inc. and U.S. Well Services, LLC (collectively, “USWS” or “Plaintiffs”) file this Amended Complaint for Patent Infringement against Defendants Halliburton Energy Services, Inc. (“Halliburton”) and Cimarex Energy Co. (“Cimarex”) (collectively, “Defendants”).<sup>1</sup>

**NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 271 *et seq.* This action involves U.S. Patent No. 9,410,410 (the “’410 Patent”), U.S. Patent No. 10,337,308 (the “’308 Patent”), U.S. Patent No. 9,970,278 (the “’278 Patent”), U.S. Patent No. 9,611,728 (the “’728 Patent”), U.S. Patent No. 8,789,601 (the “’601 Patent”), U.S. Patent No. 9,745,840 (the “’840 Patent”), and U.S. Patent No. 10,408,030 (the “’030 Patent”) (collectively the “Patents-in-Suit” or the “Asserted Patents”). *See* Ex. A (the ’410 Patent), Ex. B (the ’308 Patent), Ex. C (the ’278 Patent), Ex. D (the ’728 Patent), Ex. E (the ’601 Patent), Ex. F (the ’840 Patent), Ex. G (the ’030 Patent).

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<sup>1</sup> Plaintiffs U.S. Well Services, Inc. and U.S. Well Services, LLC filed their Original Complaint for Patent Infringement against Halliburton Company and Cimarex Energy Co. on April 15, 2021 (Dkt. 1).

## **PARTIES**

2. Plaintiff U.S. Well Services, Inc. is a Delaware corporation having its principal place of business at 1360 Post Oak Boulevard, Suite 1800, Houston, Texas 77056.

3. Plaintiff U.S. Well Services, LLC is a Delaware limited liability company having its principal place of business at 1360 Post Oak Boulevard, Suite 1800, Houston, Texas 77056 and is a wholly-owned subsidiary of Plaintiff U.S. Well Services, Inc. Plaintiff U.S. Well Services, LLC is the owner by assignment of the '410 Patent, the '308 Patent, the '278 Patent, the '728 Patent, the '601 Patent, the '840 Patent, and the '030 Patent.

4. Defendant Halliburton Energy Services, Inc. is a Delaware corporation having its principal place of business at 3000 North Sam Houston Parkway East, Houston, Texas 77032. As discussed below with regard to the jurisdiction and venue of this Court, Defendant Halliburton posts job openings on its website for its several regular and established places of business in this District. Defendant Halliburton is a foreign-for-profit corporation doing business in the State of Texas, and may be served through its registered agent—Capitol Corporate Services, Inc. at 206 E. 9th Street, Suite 1300 Austin, Texas 78701. Defendant Halliburton Energy Services, Inc. is a wholly owned subsidiary of Halliburton Company.

5. Defendant Cimarex Energy Co. is a Delaware corporation having its principal place of business at 1700 Lincoln Street, Suite 3700, Denver, Colorado 80203. Defendant Cimarex Energy Co. also has a regular and established place of business at 600 North Marienfeld Street, Midland, Texas 79701. Defendant Cimarex Energy Co. is a registered foreign-for-profit corporation doing business in the State of Texas, and may be served through its registered agent—Corporation Service Company d/b/a CSC – Lawyers Incorporating Service Company at 211 E. 7th Street, Suite 620, Austin, Texas 78701.

### **JURISDICTION AND VENUE**

6. This Court has original subject matter jurisdiction over this action in accordance with 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. § 101, *et seq.*

7. The Court has personal jurisdiction over Defendant Halliburton because Defendant Halliburton maintains a regular and established place of business in the State of Texas within this District and has committed acts of patent infringement in the State of Texas and in this District. For example, Defendant Halliburton posts job opening on its website for its several regular and established places of business in this District, including United States; 6155 W. Murphy, Odessa, Texas 79763; and 1122 S. FM 1788, Midland, Texas, 79706-2635, United States.

8. In addition, Defendant Halliburton conducts business in this District by importing, making, using, offering for sale, selling, and advertising products and/or services in both Texas and in this District, which constitutes an act of patent infringement in the State of Texas and in this judicial district. Defendant Halliburton has purposely placed its products and services into the stream of commerce with the expectation that they will be purchased and used by customers located in Texas and in this District. Halliburton's customers in Texas and in this District have purchased and continue to purchase and use Halliburton's products and services.

9. Halliburton has made, used, sold, offered for sale, and/or imported products and services, including but not limited to hydraulic fracturing services with all-electric capabilities that are alleged herein to infringe the patents set forth herein. At the time of filing this complaint, Halliburton's products and services are available for purchase by consumers in Texas including consumers within this District.

10. The Court has personal jurisdiction over Defendant Cimarex Energy Co. because Defendant Cimarex Energy Co. maintains a regular and established place of business in the State of Texas within this District and has committed acts of patent infringement in the State of Texas and in this District.

11. Venue is proper as to Defendants Halliburton and Cimarex in this District under 28 U.S.C. § 1400(b) at least because Defendants have committed acts of infringement in this District and have a regular and established place of business in this District.

### **THE PATENTS-IN-SUIT**

12. On July 29, 2014, the United States Patent and Trademark Office (“USPTO”) duly and legally issued U.S. Patent No. 8,789,601 (the “’601 Patent”), entitled “System for Pumping Hydraulic Fracturing Fluid using Electric Pumps.” USWS holds all rights, title, and interest in and to the ’601 Patent.

13. On August 9, 2016, the USPTO duly and legally issued U.S. Patent No. 9,410,410 (the “’410 Patent”), entitled “System for Pumping Hydraulic Fracturing Fluid using Electric Pumps.” USWS holds all rights, title, and interest in and to the ’410 Patent.

14. On April 4, 2017, the USPTO duly and legally issued U.S. Patent No. 9,611,728 (the “’728 Patent”), entitled “Cold Weather Package for Oil Field Hydraulics.” USWS holds all rights, title, and interest in and to the ’728 Patent.

15. On August 29, 2017, the USPTO duly and legally issued U.S. Patent No. 9,745,840 (the “’840 Patent”), entitled “Electric Powered Pump Down.” USWS holds all rights, title, and interest in and to the ’840 Patent.

16. On May 18, 2018, the USPTO duly and legally issued U.S. Patent No. 9,970,278 (the “’278 Patent”), entitled “System for Centralized Monitoring and Control of Electric Powered Hydraulic Fracturing Fleet.” USWS holds all rights, title, and interest in the ’278 Patent.

17. On July 2, 2019, the USPTO duly and legally issued U.S. Patent No. 10,337,308 (the “’308 Patent”), entitled “System for Pumping Hydraulic Fracturing Fluid using Electric Pumps.” USWS holds all rights, title, and interest in and to the ’308 Patent.

18. On September 10, 2019, the USPTO duly and legally issued U.S. Patent No. 10,408,030 (the “’030 Patent”), entitled “Electric Powered Pump Down.” USWS holds all rights, title, and interest in and to the ’030 Patent.

### **FACTUAL BACKGROUND**

19. This case involves technology for systems, services, and products for oil and gas exploration and production. In particular, the technology includes a “system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation...” Ex. A, ’410 Patent, Abstract.

20. USWS provides services at well sites to exploration and production companies, including hydraulic fracturing (sometimes “fracking”) services.

21. In July 2014, USWS successfully deployed Clean Fleet, the first all-electric well stimulation system in the fracturing industry. USWS earned public acclaim for this breakthrough, including a New Technology Development Award at the Annual Oil & Gas Awards in March 2015. Clean Fleet has saved USWS customers millions of dollars in operational costs and led to long-term contracts with some of the largest exploration and production companies in the world.

22. USWS expended significant financial resources to develop and commercialize the Clean Fleet electric fracturing technology, which had been unproven technology. USWS’s

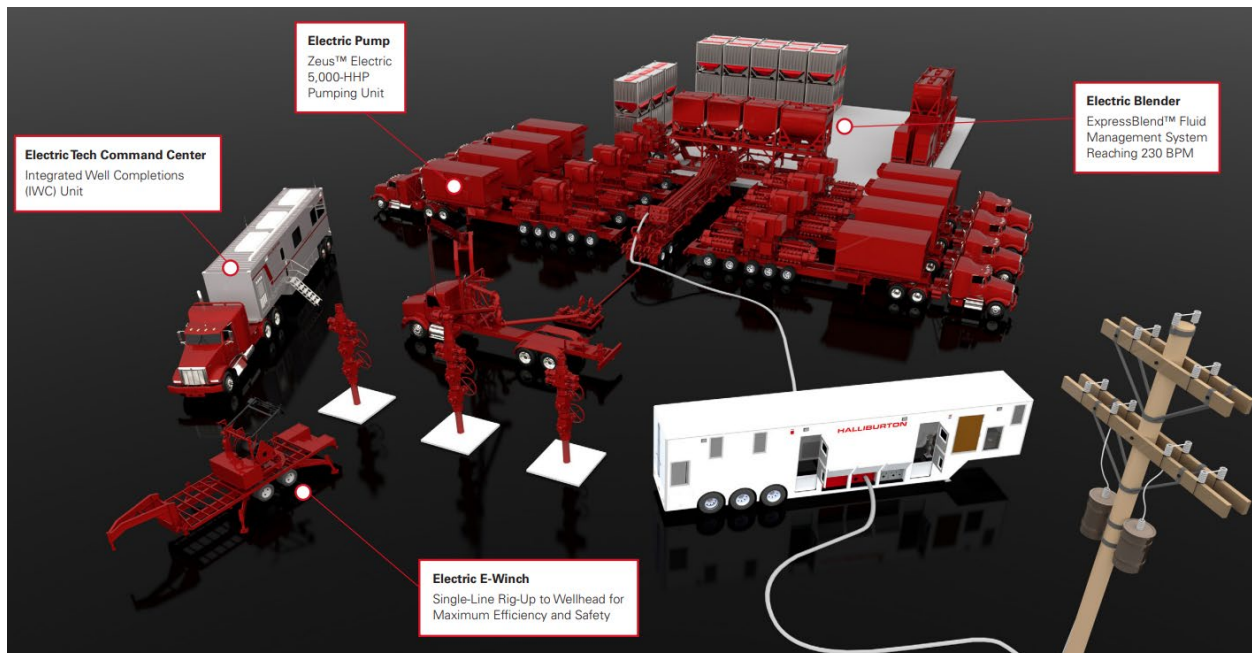
investments included research and development, testing, and implementation at appropriate quality and scale.

23. USWS has applied for and obtained several patents including the Patents-in-Suit.

24. The USWS Clean Fleet systems practice the claims of the Patents-in-Suit and comply with all applicable marking requirements.

25. Defendant Halliburton provides services at well sites, including fracturing services, and makes products and systems for oil and gas exploration related to hydraulic fracturing. Defendant Halliburton is in direct competition with Plaintiffs USWS in the oil and gas exploration and production service industry.

26. Halliburton sells services and products related to electric fracturing technologies. For instance, through its website, Halliburton describes its “All-Electric Fracturing Fleet.” *See* Ex. H, Halliburton Brochure.<sup>2</sup>



<sup>2</sup> Also available at: [https://cdn.brandfolder.io/PKKY0Y46/at/bcnf5k2x5kq3hq8r3sfkb5/2020-MKTG-PES-12254\\_All\\_Electric\\_Frac\\_Brochure\\_Final.pdf](https://cdn.brandfolder.io/PKKY0Y46/at/bcnf5k2x5kq3hq8r3sfkb5/2020-MKTG-PES-12254_All_Electric_Frac_Brochure_Final.pdf). Last Visited: April 9, 2021.

27. Halliburton describes its “All-Electric Fracturing Fleet” system as being “fully powered by electricity,” by connecting directly to the electric power grid to power and operate its electric fracturing equipment. *Id.* Halliburton describes a system in which one or more of its “Zeus Electric Pumps” may be fluidly connected to a wellbore to fracture a downhole formation.<sup>3</sup>



28. Halliburton’s “All-Electric Fracturing Fleet” system further utilizes an “Electric Tech Command Center” for electronically measuring and controlling wellbore operations.

29. Defendant Cimarex provides oil and gas exploration services, including fracturing services, and operates oil and gas fracturing wells. On information and belief, Cimarex currently operates in Oklahoma, Texas, New Mexico, and Kansas. Specifically, Cimarex operates oil and gas wells in the Permian Basin, including well sites located in Reeves County and Culberson County.

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<sup>3</sup> Halliburton’s ZEUS Electric Pumping Unit is separately described on Halliburton’s website at: <https://www.halliburton.com/en/products/zeus-electric-pumping-unit>. Last Visited: April 9, 2021.

30. Halliburton supplies oil and gas equipment and services, including the infringing instrumentalities at issue, to Cimarex. Such instrumentalities include Halliburton's "All-Electric Fracturing" Fleet system and components thereof.

31. On January 14, 2021, Halliburton issued a press release stating that it had "deliver[ed] [the] first successful grip-powered fracturing operation" in the Permian Basin, which had begun in November 2020. Ex. I, Halliburton Press Release. The operation was completed "on several pads for Cimarex Energy Co....in the Permian basin."

32. On January 19, 2021, USWS, through its counsel, sent a Notice Letter to Cimarex which notified Cimarex of USWS's intellectual property, including its 23 issued patents and pending patent applications, covering products in the field of electric fracturing technology. Specifically, USWS's Notice Letter provided the language of Claim 1 of the USWS's '308 Patent and identified Cimarex's activity in the Permian Basin.

33. On March 31, 2021, Cimarex's Vice President of Operations Blake Sirgo stated at the Energy ESG Conference that "since November [2020] we've had three pumps running on one of our crews. Those [Cimarex all-electric pumps] pumps have fractured multiple wells, hundreds of stages, different types of zones, different fields, and even different grids."

34. In Cimarex's 2020 Q4 Earnings Release Conference Call on February 23, 2021,<sup>4</sup> Cimarex's Vice President of Operations Blake Sirgo stated that Cimarex "[has] been working closely with Halliburton to develop electric frac pumps driven directly from our Cimarex own power grid." Cimarex's VP stated that Halliburton engineers and Cimarex engineers worked together hand-in-hand to get the all-electric pumps plugged into the grid.

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<sup>4</sup> Transcript available at: <https://docoh.com/transcript/1168054/2020Q4/XEC>. Last accessed: April 9, 2021.



35. Halliburton infringes and continues to infringe the Patents-in-Suit by making, using, importing, selling and/or offering for sale products and systems in this district and elsewhere in the United States that infringe the Patents-in-Suit literally, directly or indirectly, or under the doctrine of equivalents. Specifically, Halliburton makes, uses, imports, sells, and/or offers for sale its “All-Electric Fracturing” system, which infringe the Patents-in-Suit literally, directly or indirectly, or under the doctrine of equivalents. On information and belief, since at least November 2020, Halliburton sells its systems and services that accompany its system to Cimarex for implementation on well sites in this District.

36. Cimarex operates at least three Electric Frac Operation(s) on multiple wells, hundreds of stages, different types of zones, different fields, and different grids in the Permian Basin utilizing an “All-Electric Fracturing System” developed with Halliburton (including at least the “All-Electric Fracturing Fleet” system). *See* Ex. I, Halliburton Press Release.

37. Since at least November 2020, Defendant Cimarex has begun making, using, importing, selling and/or offering for sale methods, products, and systems in this district and elsewhere in the United States that infringe the Patents-in-Suit literally, directly or indirectly, or under the doctrine of equivalents. Specifically, Cimarex operates oil and gas well pads which use Halliburton’s infringing all-electric fracturing system (including at least its “All-Electric Fracturing” system) and products and practice methods claimed by the Patents-in-Suit. Therefore, Cimarex, through its actions, infringe the Patents-in-Suit literally, directly or indirectly, or under the doctrine of equivalents.

**COUNT I**  
**(INFRINGEMENT OF U.S. PATENT NO. 9,410,410 BY HALLIBURTON)**

38. USWS incorporates herein each of the paragraphs above by reference.

39. Halliburton's products and/or services that infringe the '410 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities, which Halliburton apparently refers to as the Halliburton "All-Electric Fracturing" fleet and system in its published marketing brochures available on its website. *See* Ex. H, Halliburton Brochure.

40. Halliburton has committed acts of direct infringement of the '410 Patent under 35 U.S.C. § 271(a) at least by making, using, selling, offering to sell, and/or importing into the United States products and systems described herein.

41. Halliburton has directly infringed—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '410 Patent by making, using, selling, importing and/or offering for sale the Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) and components thereof.

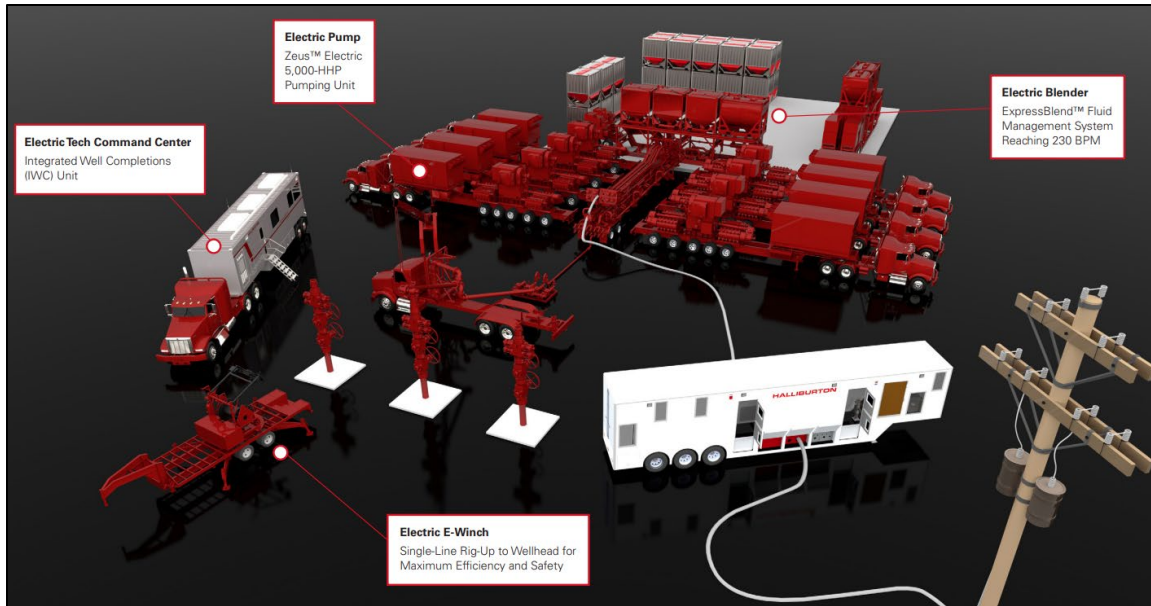
42. Claim 1 of the '410 Patent recites:

1. A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a plurality of electric pumps fluidly connected to the well and powered by at least one electric motor, and configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation; and

a variable frequency drive connected to the electric motor to control the speed of the motor, wherein the variable frequency drive frequently performs electric motor diagnostics to prevent damage to the at least one electric motor.

43. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil and gas well having a wellbore that permits passage of fluid from the wellbore into the formation.



44. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a plurality of Halliburton’s 5000HHP “Zeus Electric Pumps,” which are fluidly connected to the well and are powered by at least one electric motor.

45. The Halliburton “Zeus Electric Pumps” are configured to pump fluid into the wellbore at high pressure (“30 to 40 percent higher than with conventional equipment”) so that the fluid passes from the wellbore into the formation, and fractures the formation. *See* Ex. I, Halliburton Press Release.

46. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a variable frequency drive connected to the electric motor to control the speed of the motor.



47. On information and belief, the variable frequency drive (including at least the Halliburton All-Electric Fracturing Fleet) frequently performs electric motor diagnostics to prevent damage to the at least one electric motor.

48. In addition to directly infringing the '410 Patent, Halliburton knowingly induces and/or contributes to the infringement of the '410 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

49. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '410 Patent amounts to willful infringement.

50. Halliburton's continued infringement of the '410 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

51. Unless and until it is enjoined by this Court, Halliburton will continue to infringe the '410 Patent, directly or indirectly, or under the doctrine of equivalents. Halliburton's infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate

remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**COUNT II**  
**(INFRINGEMENT OF U.S. PATENT NO. 10,337,308 BY HALLIBURTON)**

52. USWS incorporates herein each of the paragraphs above by reference.

53. Halliburton's products and/or services that infringe the '308 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities, which Halliburton apparently refers to as the Halliburton "All-Electric Fracturing" Fleet in its published marketing brochures available on its website. *See* Ex. H, Halliburton Brochure.

54. Halliburton has directly infringed—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '308 Patent by making, using, selling, importing and/or offering for sale the Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) and components thereof.

55. Claim 1 of the '308 Patent Recites:

1. A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a pump fluidly connected to the well; and

an electric motor to power the pump, the pump configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;

wherein the pump is a triplex or quinteplex pump rated at about 2250 hydraulic horsepower or more.

56. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing an underground formation in an oil or gas well to

extract oil or gas from the formation, the oil and gas well having a wellbore that permits passage of fluid from the wellbore into the formation.

57. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a pump fluidly connected to the well (Zeus Electric Pumping Unit). *See* Ex. H, Halliburton Brochure.

58. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises an electric motor to power the Zeus Electric Pump. *See* Ex. H, Halliburton Brochure, p. 3 (“Halliburton introduces the new Zeus™ electric pump... With its electric-based powertrain, the Zeus pump allows you to pump higher rates with a smaller footprint.”).

59. The Zeus Electric Pump of the Halliburton system is configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation. *See* Ex. I, Halliburton Press Release (“Halliburton’s electric-powered equipment is engineered to utilize the maximum power potential from the grid, allowing the customer to achieve pumping performance of 30 to 40 percent higher than with conventional equipment.”).

60. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) comprises a pump which is a triplex or a quinteplex pump rated at about 2250 hydraulic horsepower or more. *See* Ex. H, Halliburton Brochure (stating that the Zeus Electric Pump “[delivers] 5,000HHP consistently at 22 BMP & 9,500 PSI”).

61. In addition to directly infringing the ’308 Patent, Halliburton knowingly induces and/or contributes to the infringement of the ’308 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system.

Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

62. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '308 Patent amounts to willful infringement.

63. Halliburton's continued infringement of the '308 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

64. Unless and until it is enjoined by this Court, Halliburton will continue to infringe the '308 Patent, directly or indirectly, or under the doctrine of equivalents. Halliburton's infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**COUNT III**  
**(INFRINGEMENT OF U.S. PATENT NO. 9,970,278 BY HALLIBURTON)**

65. USWS incorporates herein each of the paragraphs above by reference.

66. Halliburton's products and/or services that infringe the '278 Patent include, but are not limited to, hydraulic fracturing services with all-electric capabilities, which Halliburton refers to as its "All-Electric Fracturing Fleet." *See* Ex. H, Halliburton Brochure.

67. Halliburton directly infringes—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '278 Patent by making, using, selling, importing, and/or offering for sale at least its All-Electric Fracturing Fleet and components thereof.

68. Claim 1 of the '278 Patent recites:

1. A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a plurality of electric pumps fluidly connected to the well, and configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;

a plurality of generators electrically connected to the plurality of electric pumps to provide electrical power to the electric pumps; and

a centralized control unit coupled to the plurality of electric pumps and the plurality of generators, wherein the centralized control unit is configured to: monitor at least one of pressure and temperature of the plurality of electric pumps and the plurality of generators.

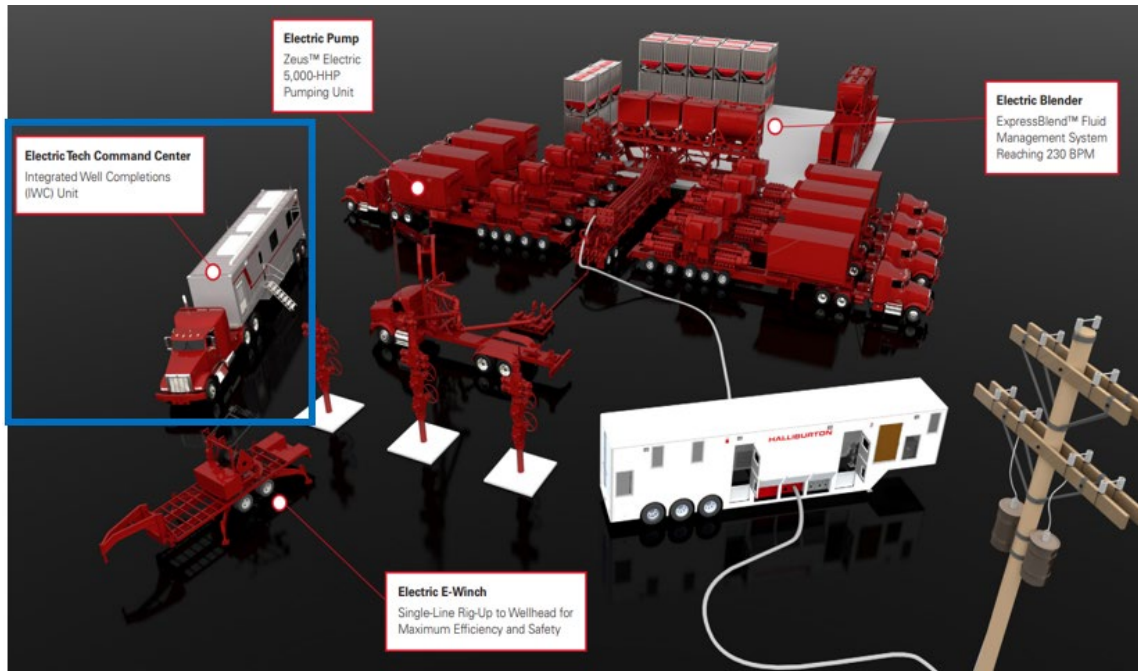
69. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil and gas well having a wellbore that permits passage of fluid from the wellbore into the formation.

70. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) comprises a plurality of Halliburton's 5000HHP "Zeus Electric Pumps" that are fluidly connected to the well. *See* Ex. H, Halliburton Brochure. The Zeus Electric Pumps of the All-Electric Fracturing system are configured to pump fluid at high pressure so that fluid passes from the wellbore into the formation, and fractures the formation. *See* Ex. I, Halliburton Press Release, ("Halliburton's electric-powered equipment is engineered to utilize the maximum power potential from the grid, allowing the customer to achieve pumping performance of 30 to 40 percent higher than with conventional equipment.").

71. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) comprises a plurality of generators electrically connected to the plurality of electric pumps to provide electrical power to the pumps. *See* Ex. H, Halliburton Brochure.



72. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) includes a centralized control unit (“Electric Tech Command Center”) coupled to the plurality of electric pumps and the plurality of generators.



73. The centralized control unit (*i.e.*, the Electric Tech Command Center or Integrated Well Completions (IWC) Unit) of the Halliburton All-Electric Fracturing system is configured to monitor at least one of pressure and temperature of the plurality of electric pumps and the plurality of generators.

74. In addition to directly infringing the '278 Patent, Halliburton knowingly induces and/or contributes to the infringement of the '278 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

75. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '278 Patent amounts to willful infringement

76. Halliburton's continued infringement of the '278 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

77. Unless and until it is enjoined by this Court, Halliburton will continue to infringe the '278 Patent, directly or indirectly, or under the doctrine of equivalents. Halliburton's infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**COUNT IV**  
**(INFRINGEMENT OF U.S. PATENT NO. 9,611,728 BY HALLIBURTON)**

78. USWS incorporates herein each of the paragraphs above by reference.

79. Halliburton's products and/or services that infringe the '728 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities, which Halliburton apparently refers to as the Halliburton "All-Electric Fracturing" fleet in its published marketing brochures available on its website.

80. Halliburton directly infringes—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '728 Patent by making, using, selling, importing, and/or offering for sale at least its All-Electric Fracturing Fleet and components thereof.

81. Claim 1 of the '728 Patent recites:

1. A hydraulic fracturing system for fracturing a subterranean formation comprising:

a plurality of electric pumps fluidly connected to the well and powered by at least one electric motor and configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;

a variable frequency drive connected to the motor to control the speed of the motor, wherein the variable frequency drive frequently performs electric motor diagnostics to the at least one electric motor; and

a working fluid system comprising working fluid, and a heater that is in thermal contact with the working fluid;

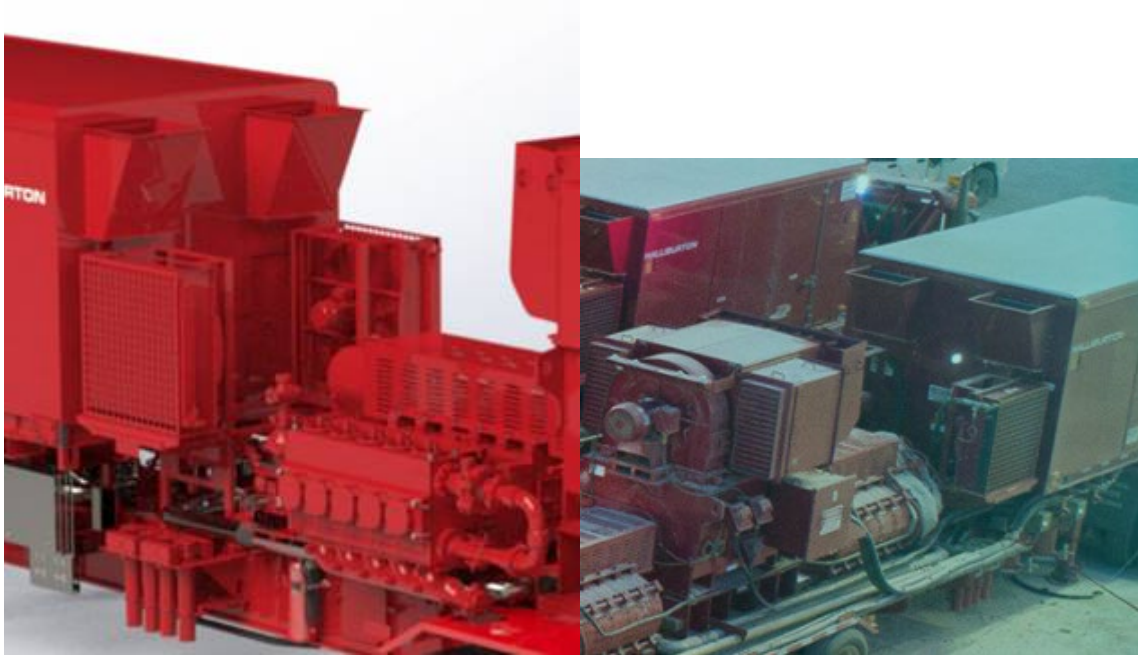
wherein the heater comprises a tank having working fluid and a heating element in thermal contact with the working fluid.

82. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing subterranean formations.

83. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a plurality of electric pumps fluidly connected to the well and powered by at least one electric motor. *See* Ex. H, Halliburton Brochure. The plurality of pumps are configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation. *See* Ex. I, Halliburton Press Release.

84. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a variable frequency drive connected to the electric motor to control the speed of the motor. For example, the brochure for the All-Electric Fracturing system describes how “[f]rom the pump to the wireline unit, the fleet is fully powered by electricity – removing engines, transmissions, and radiators from location, resulting in less maintenance, longer equipment life, and less non-productive time (NPT).” On information and belief, the variable frequency drive frequently performs electric motor diagnostics to the at least one electric motor to prevent damage to the at least one electric motor.

85. On information and belief, the Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a working fluid system comprising working fluid and a heater that is in thermal contact with the working fluid. Halliburton’s marketing brochures and images of the All-Electric Fracturing system show that the system comprises a plurality of outward facing radiators mounted behind the variable frequency drive houses with fluid lines from the electric pump.



86. On information and belief, the heater of the Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a tank having a working fluid and a heating element in fluid contact with the working fluid.

87. In addition to directly infringing the '728 Patent, Halliburton knowingly induces and/or contributes to the infringement of the '728 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

88. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '728 Patent amounts to willful infringement.

89. Halliburton's continued infringement of the '728 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

90. Unless and until it is enjoined by this Court, Halliburton will continue to infringe the '728 Patent, directly or indirectly, or under the doctrine of equivalents. Halliburton's infringing

acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**COUNT V**  
**(INFRINGEMENT OF U.S. PATENT NO. 8,789,601 BY HALLIBURTON)**

91. USWS incorporates herein each of the paragraphs above by reference.

92. Halliburton's products and/or services that infringe the '601 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities, which Halliburton refers to as its "All-Electric Fracturing" fleet in its published marketing brochures available on its website. *See* Ex. H, Halliburton Brochure.

93. Halliburton directly infringes—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '601 Patent by making, using, selling, importing, and/or offering for sale at least the "All-Electric Fracturing" system and components thereof.

94. Claim 1 of the '601 Patent recites:

1. A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil and gas from the formation, the oil or gas well having a wellbore that permits fluid from the wellbore into the formation, the system comprising:

a plurality of pumps mounted on a trailer or truck and powered by electric motors and fluid connected to the well, the pumps configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;

at least one variable frequency drive connected to the electric motors to control the speed of the motors, the at least one variable frequency drive frequency performing electric motor diagnostics to prevent damage to the electric motors if they become grounded or shorted; and

a plurality of generators electrically connected to the plurality of pumps to provide electrical power to the pumps.

95. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil and gas well having a wellbore that permits passage of fluid from the wellbore into the formation.

96. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a plurality of Halliburton's 5000HHP "Zeus Electric Pumps," which are fluidly connected to the well and are powered by at least one electric motor. The Zeus Electric Pumps are mounted on a trailer or truck.



97. The Halliburton "Zeus Electric Pumps" mounted on the trailer or truck are configured to pump fluid into the wellbore at high pressure ("30 to 40 percent higher than with conventional equipment") so that the fluid passes from the wellbore into the formation, and fractures the formation. *See* Ex. I, Halliburton Press Release.

98. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) comprises a variable frequency drive connected to the electric motor to control the speed of the motor.

99. On information and belief, the Halliburton system (including at least the Halliburton All-Electric Fracturing system) frequently performs electric motor diagnostics to prevent damage to the at least one electric motor if it becomes grounded or shorted.

100. The Halliburton system (including at least the Halliburton All-Electric Fracturing system) includes a plurality of generators electrically connected to the plurality of electric pumps to provide electrical power to the pumps. *See* Ex. H, Halliburton Brochure.

101. Halliburton's system (including at least the Halliburton All-Electric Fracturing system) comprises a plurality of generators connected to the plurality of pumps to provide electrical power to the pumps. *See* Ex. H, Halliburton Brochure (“[t]his all-electric location, featuring the new Zeus™ electric fracturing pumping unit, can be powered multiple ways, including the grid, natural gas reciprocating engines or with low-emission turbines.”).

102. In addition to directly infringing the '601 Patent, Halliburton knowingly induces and/or contributes to the infringement of the '601 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

103. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '601 Patent amounts to willful infringement.

104. Halliburton's continued infringement of the '601 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

105. Unless and until it is enjoined by this Court, Halliburton will continue to infringe the '601 Patent, directly or indirectly, or under the doctrine of equivalents. Halliburton's infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.



**COUNT VI**  
**(INFRINGEMENT OF U.S. PATENT NO. 9,745,840**  
**BY HALLIBURTON AND CIMAREX)**

106. USWS incorporates herein each of the paragraphs above by reference.

107. Halliburton's products and/or services that infringe the '840 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities, which Halliburton apparently refers to as the Halliburton "All-Electric Fracturing" Fleet in its published marketing brochures available on its website.

108. Halliburton directly infringes—literally and/or under the doctrine of equivalents—at least representative Claim 16 of the '840 Patent by making, using, selling, importing, and/or offering for sale at least the "All-Electric Fracturing" system and components thereof.

109. Claim 16 of the '840 Patent recites:

16. A system for use in a subterranean formation operation comprising:
  - a pump down pump in communication with a wellbore that intersects the formation, and that pressurizes fluid in the wellbore;
  - a hydraulic fracturing pump in communication with the wellbore that intersects the formation, and that pressurizes fluid in the wellbore;
  - an electric motor that drives the pump down pump; and
  - a tool positioned in the wellbore below at least a portion of the fluid pressurized by the pump down pump, and that is pushed toward the bottom of the wellbore by the fluid.

110. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) is a system for hydraulically fracturing subterranean formations.

111. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises an electric motor that drives a pump down pump in communication with a wellbore. For instance, the Halliburton All-Electric Fracturing Brochure displays multiple Zeus



electric pumps for pumping a pressurized fluid down the wellbore. *See* Ex. H, Halliburton Brochure. The pump down pump intersects the formation and pressurizes fluid in the wellbore.

112. Furthermore, the Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a hydraulic fracturing pump in communication with the wellbore that intersects the formation and pressurizes fluid in the wellbore. *See* Ex. I, Halliburton Press Release (“Halliburton introduces the new Zeus™ electric pump . . . With its electric-based powertrain, the Zeus pump allows you to pump higher rates with a smaller footprint.”).

113. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises an electric motor that drives the pump down pump.

114. The Halliburton system (including at least the Halliburton All-Electric Fracturing Fleet) comprises a tool positioned in the wellbore below the portion of the fluid pressurized by the pump down pump, and that is pushed toward the bottom of the wellbore by the fluid.



115. Cimarex’s use of products and/or services developed with Halliburton that infringe the ’840 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities at its “three grid powered frac pumps” in operation in the Permian Basin

(“Electric Frac Operation Sites”). On information and belief, the system utilized at the Electric Frac Operation sites are Halliburton’s “All-Electric Fracturing Fleet” system.

116. Accordingly, Defendants Halliburton and Cimarex directly infringe—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the ’840 Patent by making, using, selling, importing, and/or offering for sale at least the “All-Electric Fracturing” system and components thereof at its “Electric Frac Operation Sites.”

117. Claim 1 of the ’840 Patent recites:

16. A method of operations in a subterranean formation, the method comprising:  
 driving a pump with an electrically powered motor to pressurize fluid;  
 inserting a tool into a wellbore that intersects the formation;  
 pressurizing fluid with a boost pump to form a boost fluid;  
 directing the boost fluid to the pump; and  
 directing the pressurized fluid into the wellbore above the tool to push the tool into the wellbore.

118. The Defendants’ Electric Frac Operation site practices a method of operation in subterranean formations. Specifically, Cimarex executives have stated that “[t]hree grid powered frac pumps have been in operation since November of 2020” that have “fracted multiple wells, hundreds of stages, different types of zones, different fields, and even different grids.”

119. Defendants’ Electric Frac Operation includes driving a pump with an electrically powered motor to pressurize fluid. Cimarex operates a system utilizing electric frac pumps driven directly from its power grid. This includes Halliburton’s all-electric fracturing system (including at least the “All-Electric Fracturing Fleet” system) that Cimarex “[has] been working closely with Halliburton to develop” and is driven directly by Cimarex’s own power grid. Halliburton’s all-electric fracturing system includes the Zeus electric pump with an electric-based powertrain to pressurize a fluid. *See* Ex. H, Halliburton Brochure.

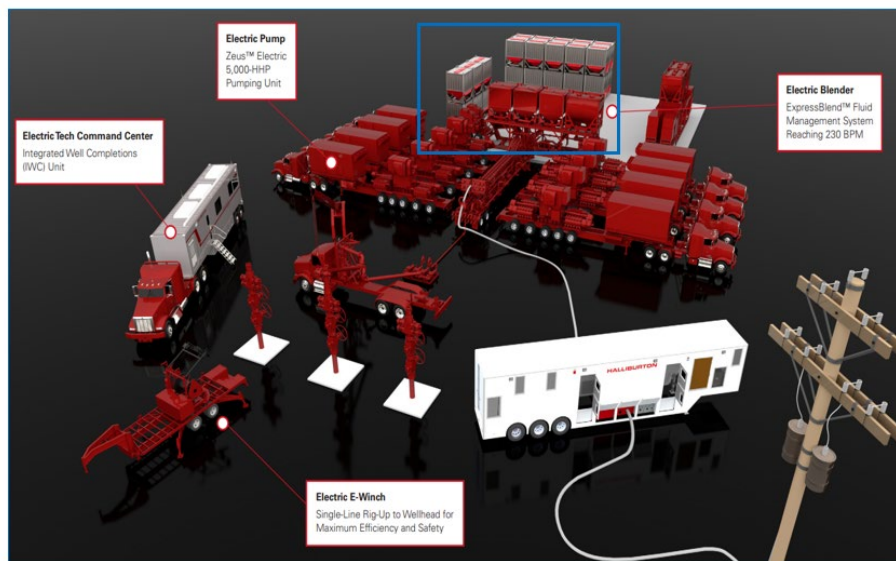
120. Defendants' Electric Frac Operation includes inserting a tool into a wellbore that intersects the formation. Since November of 2020, Cimarex has had [t]hree grid powered frac pumps developed with Halliburton in operation. For instance, Halliburton describes its electric fracturing system, including an electric wireline unit to insert a tool into a wellbore that intersects the formation. *See* Ex. H, Halliburton Brochure.

This electrically powered conveyance system, which uses a direct-drive motor, eliminates the need for failure-prone and hazardous chain drives and gearboxes that can cause downtime related to surface equipment failures.

The electric IWC unit can be operated remotely with a handheld remote control device or from a conventional winch panel located inside the TCC. This allows operators to run the winch remotely while next to the ground crew and crane operator – allowing personnel to perform essential tasks in full view of the operation, and resulting in greater safety, improved communication, and higher efficiency.



121. Defendants' Electric Frac Operation includes pressurizing fluid with a boost pump to form a boost fluid. Specifically, Cimarex's electric fracturing system developed with Halliburton includes an electric blender to operate as a boost pump to pressurize fluid to form a boost fluid using its "ExpressBlend™ fluid manage system." *See* Ex. H, Halliburton Brochure.



122. Defendants' Electric Frac Operation includes directing the boost fluid to the pump. Specifically, the electric fracturing system developed with Halliburton includes electric pumps coupled to the electric blender via a manifold trailer to direct the boost fluid to the electric pumps.

<b>MANIFOLD TRAILER</b>
The Zeus electric pump comes paired with our newly designed large-bore, dual-manifold trailer. With the trend toward higher treating rates, this system offers fewer failure points, faster rig-up operations, and higher rate capacities – reaching up to 230 barrels per minute (BPM). This system is also built to perform and deliver the efficiency gains from simultaneous fracturing operations, which allows operators to complete more lateral footage in the same amount of time compared to current zipper-frac operations. Furthermore, the new manifold trailer comes with remotely actuated valves that improve the efficiency of the operation, while eliminating personnel from the red zone.

123. Defendants' Electric Frac Operation includes directing the pressurized fluid into the wellbore above the tool to push the tool into the wellbore. For example, the VP of Cimarex energy has described how Cimarex's pumps "have fractured multiple wells, hundreds of stages, different types of zones, different fields, and even different grids." Additionally, Halliburton's website depicts a fracture-monitoring tool within the wellbore.<sup>5</sup>

124. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '840 Patent amounts to willful infringement.

125. Since at least January 19, 2021, Cimarex has had notice of the '840 Patent. Accordingly, Cimarex's infringement since the date USWS of the Notice Letter constitutes willful infringement.

126. Defendants' continued infringement of at least Claim 1 and Claim 16 of the '840 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

127. In addition to directly infringing the '840 Patent, Halliburton knowingly induces and/or contributes to Cimarex's infringement of the '840 Patent, including at least Claim 1, by

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<sup>5</sup> Available at: <https://www.halliburton.com/en/completions/stimulation/fracture-monitoring>. Last Accessed: April 9, 2021.

inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

128. Unless and until it is enjoined by this Court, Defendants Halliburton and Cimarex will continue to infringe the '840 Patent, directly or indirectly, or under the doctrine of equivalents. Defendants' infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**COUNT VII**  
**(INFRINGEMENT OF U.S. PATENT NO. 10,408,030**  
**BY HALLIBURTON AND CIMAREX)**

129. USWS incorporates herein each of the paragraphs about by reference.

130. Cimarex's use of products and/or services developed with Halliburton that infringe the '030 Patent include, but are not limited to, hydraulic fracturing services and equipment with all-electric capabilities at its "three grid powered frac pumps" in operation in the Permian Basin ("Electric Frac Operation Site"). On information and belief, the system utilized at the Electric Frac Operation sites are Halliburton's "All-Electric Fracturing Fleet" system.

131. Accordingly, Defendants directly infringe—literally and/or under the doctrine of equivalents—at least representative Claim 1 of the '030 Patent by making, using, selling, importing, and/or offering for sale at least the "All-Electric Fracturing" methods, system and components thereof at its "Electric Frac Operation Site."

132. Claim 1 of the '030 Patent recites:

1. A method of operations in a subterranean formation, the method comprising:
  - driving a pump with an electrically powered motor to pressurize fluid;
  - inserting a tool into a wellbore that intersects the formation;
  - pressurizing fluid with a boost pump to form a boost fluid;
  - directing the boost fluid to the pump; and
  - directing the pressurized fluid down stream of the pump and into the wellbore upstream of the tool to push the tool into the wellbore.

133. The Defendant's Electric Frac Operation site practices a method of operations in a subterranean formation.

134. Defendant's Electric Frac Operation includes driving a pump with an electrically powered motor to pressurize fluid. Defendant's Electric Frac Operation utilizes a pump with an electrically powered motor to pressurize fluid. This includes Halliburton's all-electric fracturing system (including at least components of the "All-Electric Fracturing Fleet" system), which is driven by Cimarex's own power grid.

135. Cimarex's Electric Frac Operation includes inserting a tool into a wellbore that intersects the formation. For instance, Cimarex's Electric Frac Operation developed with Halliburton includes an electric wireline unit to insert a tool into a wellbore that intersects the formation. *See* Ex. H, Halliburton Brochure.

136. Defendants Electric Frac Operation includes directing the boost fluid to the pump. Specifically, the electric fracturing system developed with Halliburton (including components of its "All-Electric Fracturing Fleet" system) includes electric pumps coupled to the electric blender via a manifold trailer to direct the boost fluid to the electric pumps.



137. Cimarex's Electric Frac Operation includes directing the pressurized fluid downstream of the pump and into the wellbore upstream of the tool to push the tool into the wellbore.



138. Defendants continued infringement of at least Claim 1 of the '030 Patent has damaged and will continue to damage USWS in an amount to be proven at trial.

139. In addition to directly infringing the '030 Patent, Halliburton knowingly induces and/or contributes to Cimarex's infringement of the '030 Patent, including at least Claim 1, by inducing and/or contributing to the infringement of customers and end-users of the Halliburton system. Halliburton has known of USWS's patents, including the Patents-in-Suit, since at least the day of service of this lawsuit.

140. Since at least January 19, 2021, Cimarex has had notice of the '030 Patent. Accordingly, Cimarex's infringement since the date USWS of the Notice Letter constitutes willful infringement.

141. On information and belief, Halliburton's continuous infringement after obtaining knowledge of the '840 Patent amounts to willful infringement.

142. Unless and until it is enjoined by this Court, Defendants will continue to infringe the '030 Patent, directly or indirectly, or under the doctrine of equivalents. Defendants' infringing acts are causing and will continue to cause USWS irreparable harm, for which there is no adequate remedy at law. Under 35 U.S.C. § 283, USWS is entitled to a permanent injunction against further infringement.

**JURY DEMAND**

143. USWS respectfully requests a jury trial on any issues so triable by right.

**PRAYER FOR RELIEF**

WHEREFORE, USWS respectfully requests that the Court enter in its favor and grant the following relief:

A. Enter judgment that Defendant Halliburton has infringed and is infringing the '410 Patent, the '308 Patent, the '278 Patent, the '728 Patent, the '601 Patent, the '840 Patent, and the '030 Patent literally and/or under the doctrine of equivalents;

B. Enter judgment that Defendant Cimarex has infringed and is infringing the '840 Patent and the '030 Patent literally and/or under the doctrine of equivalents

C. Enter judgment that Defendant Halliburton has induced and or contributed to the infringement by its customers of the '410 Patent, the '308 Patent, the '278 Patent, the '728 Patent, the '601 Patent, the '840 Patent, and the '030 Patent.

D. Enter judgment that Defendants' infringement was and continues to be willful;

E. Enter an Order enjoining Defendant Halliburton, its agents, officers, servants, employees, attorneys, and all persons in active concert or participation with Defendant Halliburton, who receive notice of the order from further infringement of the '410 Patent, the '308 Patent, the '278 Patent, the '728 Patent, the '601 Patent, the '840 Patent, and the '030 Patent;



F. Enter an Order enjoining Defendant Cimarex, its agents, officers, servants, employees, attorneys, and all persons in active concert or participation with Defendant Cimarex, who receive notice of the order from further infringement of the '840 Patent and the '030 Patent;

G. Award USWS damages in an amount sufficient to compensate it for Defendants' infringement of the '410 Patent, the '308 Patent, the '278 Patent, the '728 Patent, the '601 Patent, the '840 Patent, and the '030 Patent, including enhanced damages, together with pre-judgment and post-judgment interest and costs in accordance with 35 U.S.C. § 284;

H. Award USWS an accounting for acts of infringement not presented at trial and an award by the Court of additional damages for any such acts of infringement;

I. Declare this case to be "exceptional" under 35 U.S.C. § 285 and award Plaintiffs attorneys' fees, expenses, and costs incurred in this action; and

J. Award Plaintiffs such further relief to which the Court finds Plaintiffs entitled under law or equity.

Dated: May 31, 2021

Respectfully submitted,

By: /s/ John A. Yates

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*U.S. Well Services, LLC*

**CERTIFICATE OF SERVICE**

I hereby certify that on May 31, 2021, I caused the foregoing to be electronically served to all counsel of record.

/s/ John A. Yates

John A. Yates

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