

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

LIBERTY ENERGY SERVICES LLC,

Plaintiff,

v.

PROFRAC SERVICES, LLC;
PROFRAC MANUFACTURING, LLC;
U.S. WELL SERVICES, LLC;
U.S. WELL SERVICES HOLDINGS, LLC,

Defendants.

Case No.: _____

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Liberty Energy Services LLC (“Liberty”), hereby files this Complaint for Patent Infringement against ProFrac Services, LLC; ProFrac Manufacturing, LLC; U.S. Well Services, LLC; and U.S. Well Services Holdings, LLC (collectively “ProFrac”) and alleges, on information and belief:

THE PARTIES

1. Liberty Energy Services LLC, formerly known as Liberty Oilfield Services LLC, is a limited liability company duly organized under the laws of the State of Texas with its principal place of business at 950 17th Street, Suite 2400, Denver, CO 80202.

2. On information and belief, ProFrac Services, LLC is a limited liability company duly organized under the laws of the State of Texas. Its principal place of business is located at 333 Shops Boulevard, Willow Park, Texas 76087.

3. On information and belief, ProFrac Manufacturing, LLC is a limited liability company duly organized under the laws of the State of Texas. Its principal place of business is

located at 333 Shops Boulevard, Willow Park, Texas 76087.

4. On information and belief, U.S. Well Services, LLC is a limited liability company duly organized under the laws of the State of Delaware. Its principal place of business is located at 333 Shops Boulevard, Willow Park, Texas 76087.

5. On information and belief, U.S. Well Services Holdings, LLC is a limited liability company duly organized under the laws of the State of Delaware. Its principal place of business is located at 333 Shops Boulevard, Willow Park, Texas 76087.

NATURE OF THE ACTION

6. This is a civil action against ProFrac for patent infringement arising under the United States Patent Laws, 35 U.S.C. § 271, *et seq.* for the infringement of United States Patent Nos. 7,845,413; 8,056,635; 8,336,631; 8,851,186; and 11,927,086 (collectively “Liberty Patents”). The Liberty Patents are valid and enforceable, and the inventions claimed in the Liberty Patents were novel, non-obvious, unconventional, and non-routine at least as of their earliest priority date.

JURISDICTION AND VENUE

7. This action arises under the United States Patent Laws, Title 35 of the United States Code. This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over ProFrac in this action because ProFrac has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over ProFrac would not offend traditional notions of fair play and substantial justice. ProFrac maintains its principal place of business in the State of Texas, as described above. ProFrac maintains offices and facilities in this District at 1704 East Whaley Street, Longview, Texas and actively directs its activities to customers located in the State of Texas. ProFrac, directly and/or through subsidiaries

or intermediaries, has committed and continues to commit acts of infringement in this District by, among other things, making, using, offering to sell, and selling products and/or services or inducing others to make, use, offer to sell, or sell products and/or services that infringe the Liberty Patents.

9. Venue is proper in this judicial district under 28 U.S.C. §§ 1391 and 1400(b). ProFrac maintains a regular and established place of business in the Eastern District of Texas at 1704 East Whaley Street, Longview, Texas. ProFrac has committed and continues to commit acts of patent infringement in the Eastern District of Texas.

FACTUAL BACKGROUND

10. Hydraulic fracturing (commonly referred to as “fracing” or “fracking”) is a method of harvesting oil and natural gas where a high pressure stream of liquid and solid particles are injected into a well. This stream creates fissures in the surrounding rock. These fissures release oil and natural gas trapped within the rock, allowing it to flow to the surface of the well.

11. In a traditional setup, a fracking operation mixes liquid (often water) with a solid particulate (often sand) and other chemicals that aid in the fracking operation. The solid particulate is commonly referred to as the “proppant.” The resulting particulate filled liquid, or “fracking fluid,” is then sent through a plurality of pumps and injected into a well.

12. The problem with this traditional method is that it involves pumping large amounts of solid particulate through expensive pumps. Fracking companies using this traditional setup realized that machinery pumping water with a particulate (the so called “dirty water” or “dirty stream”) had a significantly shorter useful life than machinery pumping water without a particulate (the so called “clean water” or “clean stream”).

13. Faced with this problem, researchers began studying whether the concentration of the proppant in the fracking fluid increased the rate of wear on the machinery. Researchers

surprisingly discovered there was no linear relationship between the amount of proppant in a solution and the subsequent amount of wear on the machinery. Put another way, a solution containing a small amount of proppant wore down the pumping machinery just as quickly as a solution containing a large amount of proppant.

14. Recognizing the possibilities presented by this unexpected discovery, the fracking industry began to develop the technology now known as “split stream fracking.” That is, rather than combining the water, proppant, and other chemicals at the outset of the fracking process and running the resulting fracking fluid through all of the pumps at a wellsite, companies began experimenting with various pumping systems and setups. One such setup involved keeping the clean stream and the dirty stream separate and running each stream through separate sets of pumps before combining them. In this improved setup, one stream would contain a concentrated amount of proppant and would be processed through some of the well’s pumps (the so called “dirty pumps”) while the other stream would contain clean water with no proppant, which would be processed through the well’s remaining pumps (the so called “clean pumps”). Only after the clean stream and dirty stream were separately pressurized would the two streams be combined in a common manifold prior to being sent down into the well. For example, if a company wanted to create a fracking fluid with a total proppant concentration of 3 pounds per gallon, it could use a 2:1 ratio of clean water to dirty water with the dirty water having a proppant concentration of 9 pounds per gallon. Then, following the separate pressurizations of the clean water and dirty water the two streams would be combined in the common manifold to create the desired 3 pounds per gallon fracking fluid.

15. As a result of this novel technology, only the dirty pumps would require the frequent and costly maintenance previously required of all of a wellsite’s pumps, while the clean

pumps would operate with significantly reduced maintenance needs and would enjoy a significantly longer useful life. Additionally, because the concentration of proppant does not materially affect the amount of wear on the dirty pumps, the higher proppant concentration present in the dirty stream does not wear out the dirty pumps any faster than the traditional hydraulic fracking processes previously in use.

16. Recognizing the utility of this developing technology, Schlumberger Technology Corporation (“Schlumberger”) pursued patent protection for its specific split stream fracking improvements, resulting in the issuance of the Liberty Patents. In particular, the Liberty Patents include split stream fracking technology related to: combining the clean and dirty streams in a common manifold, combining the two streams at the well’s surface, and narrowing the scope of the to-be-utilized proppant concentrations, along with additional improvements on the prior art.

17. The inventors duly assigned all right, title, and interest in the Liberty Patents to Schlumberger. Liberty Oilfield Services LLC acquired all right, title, and interest to the Liberty Patents from Schlumberger in 2024, including the right to sue for past damages. On November 1, 2024, Liberty Oilfield Services LLC legally changed its named to Liberty Energy Services LLC.

LIBERTY PATENTS

18. U.S. Patent No. 7,845,413 (“’413 Patent”), entitled Method of Pumping an Oilfield Fluid and Split Stream Oilfield Pumping Systems, was duly and legally issued on December 7, 2010, and names Rod Champine, Paul Dwyer, Ronnie Stover, Mike Lloyd, Jean-Louis Pessin, Edward Leugemors, Larry D. Welch, Joe Hubenschmidt, Philippe Gambier, William Troy Huey, and Tom Allan as inventors. Liberty is the owner of all right, title, and interest in the ’413 Patent. A true and correct copy of the ’413 Patent is attached as Exhibit A. The ’413 Patent is the ultimate parent patent of each of the other patents-in-suit.

19. U.S. Patent No. 8,056,635 (“’635 Patent”), entitled Split Stream Oilfield Pumping

Systems, was duly and legally issued on November 15, 2011, and names as inventors Rod Shampine, Paul Dwyer, Ronnie Stover, Mike Lloyd, Jean-Louis Pessin, Edward Leugemors, Larry D. Welch, Joe Hubenschmidt, Philippe Gambier, William Troy Huey, and Tom Allan as inventors. Liberty is the owner of all right, title, and interest in the '635 Patent. A true and correct copy of the '635 Patent is attached as Exhibit B.

20. U.S. Patent No. 8,336,631 (“’631 Patent”), entitled Split Stream Oilfield Pumping Systems, was duly and legally issued on December 25, 2012, and names Rod Shampine, Paul Dwyer, Ronnie Stover, Mike Lloyd, Jean-Louis Pessin, Edward Leugemors, Larry D. Welch, Joe Hubenschmidt, Philippe Gambier, William Huey Troy, and Thomas Allan as inventors. Liberty is the owner of all right, title, and interest in the '631 Patent. A true and correct copy of the '631 Patent is attached as Exhibit C.

21. U.S. Patent No. 8,851,186 (“’186 Patent”), entitled Split Stream Oilfield Pumping Systems, was duly and legally issued on October 7, 2014, and names Rod Shampine, Paul Dwyer, Ronnie Stover, Mike Lloyd, Jean-Louis Pessin, Edward Leugemors, Larry D. Welch, Joe Hubenschmidt, Philippe Gambier, William Troy Huey, and Thomas Allan as inventors. Liberty is the owner of all right, title, and interest in the '186 Patent. A true and correct copy of the '186 Patent is attached as Exhibit D.

22. U.S. Patent No. 11,927,086 (“’086 Patent”) entitled Split Stream Oilfield Pumping Systems, was duly and legally issued on March 12, 2024, and names Rod Shampine, Paul Dwyer, Ronnie Stover, Mike Lloyd, Jean-Louis Pessin, Edward Kent Leugemors, Larry D. Welch, Joe Hubenschmidt, Philippe Gambier, William Troy Huey, and Thomas Allan as inventors. Liberty is the owner of all right, title, and interest in the '086 Patent. A true and correct copy of the '086 Patent is attached as Exhibit E.

PROFRAC'S KNOWLEDGE OF THE LIBERTY PATENTS AND INFRINGEMENT

23. On information and belief, ProFrac and/or its subsidiaries, customers, and agents, routinely take advantage of the technological developments claimed in the Liberty Patents, including by using the split stream fracking methods disclosed in the Liberty Patents and have done so for at least the past six years.

24. On information and belief, ProFrac was aware of the technological developments claimed in the Liberty Patents as of at least August 3, 2015, when the '413 Patent was cited as prior art in an Office Action related to U.S. Patent Application No. 13/679,689, which subsequently issued as U.S. Patent No. 9,410,410 ("ProFrac '410 Patent").

25. There are multiple other instances of ProFrac being made specifically aware of the '413 Patent during the prosecution of its patents:

- **September 27, 2016** – the '413 Patent is cited as prior art in an Office Action during the prosecution of U.S. Patent Application No. 15/145,440 which would later issue as U.S. Patent No. 9,611,728 ("ProFrac '728 Patent").
- **June 23, 2017** – the '413 Patent is cited as the lead prior art reference in an Office Action during the prosecution of U.S. Patent Application No. 15/487,656 which would later issue as U.S. Patent No. 10,020,711 ("ProFrac '711 Patent"). The applicant and examiner substantively discussed the '413 Patent multiple times during the prosecution of the ProFrac '711 Patent. *See, e.g.*, Sept. 25, 2017 Response to June 23, 2017 Office Action; Oct. 13, 2017 Final Rejection.
- **November 23, 2020** – the '413 Patent is cited as an anticipation reference in an Office Action during the prosecution of U.S. Patent Application No. 16/456,777 which would later issue as U.S. Patent No. 11,136,870 ("ProFrac '870 Patent").

26. On information and belief, the '413 Patent has been cited during the prosecution of nearly forty patents assigned to ProFrac.

27. In addition to being cited during the prosecution of ProFrac patents, the '413 Patent has also been referenced, and sometimes relied upon as prior art, in multiple *inter partes* review proceedings challenging ProFrac Patents. *See Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2021-01032 (ProFrac '410 Patent); *Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2021-01033 (U.S. Patent No. 8,789,601); *Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2021-01034 (U.S. Patent No. 10,337,308); *Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2021-01036 (ProFrac '728 Patent); *Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2021-01066 (ProFrac '711 Patent); *Halliburton Energy Services, Inc. v. U.S. Well Services, LLC*, IPR2023-00558 (ProFrac '870 Patent).

28. ProFrac's website lists each of the ProFrac patents discussed above as protecting its "clean fleet" fracking technology.

29. ProFrac has knowledge of each of the Liberty Patents at least as of the filing date of this Complaint.

30. On information and belief, ProFrac and/or its subsidiaries, customers, and agents, makes or has made, uses or has used, sold or has sold, or induces or has induced others, to use the technological developments claimed in the Liberty Patents.

31. On information and belief, the image depicted in Exhibit F is an exemplary ProFrac hydraulic fracturing operation.

32. On information and belief, the exemplary ProFrac hydraulic fracturing operation depicted in Exhibit F has a plurality of water tanks ("A") to store the water necessary for the

hydraulic fracturing operation. *See Exhibit F* at A.

33. On information and belief, during the operation of the exemplary ProFrac hydraulic fracturing operation depicted in Exhibit F, an amount of the water from the water tanks (“A”) is combined with a proppant (likely sand) in the blender (“B”). This combination of water and proppant creates the “dirty stream” used in the exemplary ProFrac hydraulic fracturing operation depicted in Exhibit F. *See Exhibit F* at A, B.

34. On information and belief, in addition to adding proppant to its dirty stream, ProFrac also adds additional chemicals such as polyacrylamide, or a functional equivalent, to its dirty stream to act as a gelling agent and/or friction reducer.

35. On information and belief, ProFrac uses a proppant concentration of at least 2 pounds per gallon in its split stream hydraulic fracturing operations and predominantly uses a proppant concentration in its dirty streams between about 2 pounds per gallon and 12 pounds per gallon.

36. On information and belief, following the combination of the water, proppant, and chemicals, the dirty stream in the exemplary ProFrac hydraulic fracturing operation depicted in Exhibit F is transported through a rock catcher (“C”) by a plurality of hoses and then into the dirty pumps (“D”). *See Exhibit F* at C, D.

37. On information and belief, while certain hoses carry water from the water tanks (“A”) to the blender (“B”) to create the dirty stream, additional, separate, hoses (“E”) in the exemplary ProFrac hydraulic fracturing operation bypass the blender and transport water directly to the clean pumps (“F”) thereby creating the “clean stream.” *See Exhibit F* at E, F.

38. On information and belief, following pressurization of the dirty stream by the dirty pumps (“D”) and pressurization of the clean stream by the clean pumps (“F”) the dirty stream and

clean stream in the exemplary ProFrac hydraulic fracturing operation each proceed into the common manifold (“G”) where they are combined at the well surface to create the fracking fluid. Exhibit F at D, F, G.

39. On information and belief, following the combination of the clean stream and the dirty stream in the common manifold (“G”) the fracking fluid in the exemplary ProFrac hydraulic fracturing operation is pumped from the well surface to the wellbore via the wellhead (“H”). Exhibit F at G, H.

COUNT I: INFRINGEMENT OF THE '413 PATENT

40. Liberty hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

41. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of the '413 Patent under 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, or importing into the United States, or by intending that others make, use, sell, offer for sale, or import into, the United States, the technological advancements and inventions claimed in the '413 Patent.

42. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of at least claim 1 of the '413 Patent.

43. ProFrac's infringement of the '413 Patent has been, and will continue to be, knowing, intentional, and willful.

44. ProFrac's infringement of the '413 Patent has caused and will continue to cause Liberty damages for which Liberty is entitled to compensation pursuant to 35 U.S.C. § 284.

45. ProFrac's infringement of the '413 Patent has caused and will continue to cause Liberty immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Liberty has no adequate remedy at law.

46. ProFrac's infringement detailed in paragraphs 23-39 is exemplary and Liberty will be able to provide a fuller picture of the extent of ProFrac's infringement after the completion of discovery.

47. This case is exceptional and, therefore, Liberty is entitled to an award of attorney fees pursuant to 35 U.S.C. § 285.

COUNT II: INFRINGEMENT OF THE '635 PATENT

48. Liberty hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

49. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of the '635 Patent under 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, or importing into the United States, or by intending that others make, use, sell, offer for sale, or import into, the United States, the technological advancements and inventions claimed in the '635 Patent.

50. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of at least claim 1 of the '635 Patent.

51. ProFrac's infringement of the '635 Patent has caused and will continue to cause Liberty damages for which Liberty is entitled to compensation pursuant to 35 U.S.C. § 284.

52. ProFrac's infringement of the '635 Patent has caused and will continue to cause Liberty immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Liberty has no adequate remedy at law.

53. ProFrac's infringement detailed in paragraphs 23-39 is exemplary and Liberty will be able to provide a fuller picture of the extent of ProFrac's infringement after the completion of discovery.

54. This case is exceptional and, therefore, Liberty is entitled to an award of attorney

fees pursuant to 35 U.S.C. § 285.

COUNT III: INFRINGEMENT OF THE '631 PATENT

55. Liberty hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

56. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of the '631 Patent under 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, or importing into the United States, or by intending that others make, use, sell, offer for sale, or import into, the United States, the technological advancements and inventions claimed in the '631 Patent.

57. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of at least claim 1 of the '631 Patent.

58. ProFrac's infringement of the '631 Patent has caused and will continue to cause Liberty damages for which Liberty is entitled to compensation pursuant to 35 U.S.C. § 284.

59. ProFrac's infringement of the '631 Patent has caused and will continue to cause Liberty immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Liberty has no adequate remedy at law.

60. ProFrac's infringement detailed in paragraphs 23-39 is exemplary and Liberty will be able to provide a fuller picture of the extent of ProFrac's infringement after the completion of discovery.

61. This case is exceptional and, therefore, Liberty is entitled to an award of attorney fees pursuant to 35 U.S.C. § 285.

COUNT IV: INFRINGEMENT OF THE '186 PATENT

62. Liberty hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

63. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of the '186 Patent under 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, or importing into the United States, or by intending that others make, use, sell, offer for sale, or import into, the United States, the technological advancements and inventions claimed in the '186 Patent.

64. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of at least claim 1 of the '186 Patent.

65. ProFrac's infringement of the '186 Patent has caused and will continue to cause Liberty damages for which Liberty is entitled to compensation pursuant to 35 U.S.C. § 284.

66. ProFrac's infringement of the '186 Patent has caused and will continue to cause Liberty immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Liberty has no adequate remedy at law.

67. ProFrac's infringement detailed in paragraphs 23-39 is exemplary and Liberty will be able to provide a fuller picture of the extent of ProFrac's infringement after the completion of discovery.

68. This case is exceptional and, therefore, Liberty is entitled to an award of attorney fees pursuant to 35 U.S.C. § 285.

COUNT V: INFRINGEMENT OF THE '086 PATENT

69. Liberty hereby incorporates by reference each of the allegations in the foregoing paragraphs as though fully set forth herein and further alleges as follows:

70. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of the '086 Patent under 35 U.S.C. § 271 by making, using, selling, or offering for sale in the United States, or importing into the United States, or by intending that others make, use, sell, offer for sale, or import into, the United States, the technological advancements and inventions

claimed in the '086 Patent.

71. ProFrac has infringed, induced infringement of, and/or contributed to the infringement of at least claim 1 of the '086 Patent.

72. ProFrac's infringement of the '086 Patent has caused and will continue to cause Liberty damages for which Liberty is entitled to compensation pursuant to 35 U.S.C. § 284.

73. ProFrac's infringement of the '086 Patent has caused and will continue to cause Liberty immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Liberty has no adequate remedy at law.

74. ProFrac's infringement detailed in paragraphs 23-39 is exemplary and Liberty will be able to provide a fuller picture of the extent of ProFrac's infringement after the completion of discovery.

75. This case is exceptional and, therefore, Liberty is entitled to an award of attorney fees pursuant to 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, Liberty requests entry of a judgment in its favor and against ProFrac as follows:

- a) Judgment that ProFrac has either directly infringed one or more claims of the Liberty Patents, and/or has induced or contributed to the infringement of one or more claims of the Liberty Patents by others;
- b) An award of damages to compensate for ProFrac's infringement, including damages pursuant to 35 U.S.C. § 284, as well as prejudgment and post-judgment interest;
- c) An award of costs and expenses in this action, including an award of Liberty's reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
- d) A permanent injunction restraining and enjoining ProFrac, and their respective

officers, agents, servants, employees, attorneys, and those persons in active concert or participation with ProFrac who receive actual notice of the order by personal service or otherwise, from any further sales or use of their infringing products and/or services and any other infringement of the Liberty Patents;

e) A finding that ProFrac has willfully infringed and is willfully infringing at least claim 1 of the '413 Patent;

f) A finding that this case is an exceptional case, awarding treble damages due to ProFrac's deliberate and willful conduct, and ordering ProFrac to pay Liberty's costs of suit and attorneys' fees; and

g) For such other and further relief as the Court may deem just, proper, and equitable.

JURY DEMAND

Liberty respectfully demands a trial by jury on all claims and issues so triable.

Dated: November 1, 2024

Respectfully Submitted,

/s/ Robert H. Reckers

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