IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
DENVER DIVISION

CRUSOE ENERGY SYSTEMS LLC,	§	
	§	
Plaintiff,	§	
	§	
	§	
v.	§	**Civil Action No. 1:22-cv-2142-NYW-STV**
	§	
ALKANE MIDSTREAM LLC,	§	**HONORABLE**
	§	**JUDGE NINA Y. WANG**
Defendant.	§	
	§	**HONORABLE**
	§	**JUDGE SCOTT T. VARHOLAK**

PLAINTIFF CRUSOE ENERGY SYSTEMS LLC'S SECOND AMENDED COMPLAINT AND DEMAND FOR JURY TRIAL AND INJUNCTIVE RELIEF

Plaintiff Crusoe Energy Systems LLC ("Crusoe" or "Plaintiff") brings this Second Amended Complaint for patent infringement, tortious interference with contractual relationship, and tortious interference with prospective business advantage against Defendant Alkane Midstream LLC ("Alkane" or "Defendant"). Crusoe alleges, based on personal knowledge with respect to its own actions and upon information and belief with respect to all others' actions, as follows:

THE PARTIES

1. Crusoe is a limited liability company organized and existing under the laws of the State of Delaware with a place of business at 1641 California Street, Floor 4, Denver, Colorado 80202.

2. Crusoe provides oil and gas companies with a fast, low-cost, and simple solution to natural gas flaring.

3. Alkane is a limited liability company organized and existing under the laws of the State of Delaware with its principal place of business at 100 Washington Ave. South, Ste. 15, Minneapolis, MN 55401. Alkane may be served through its counsel of record.

4. Alkane markets, offers to sell, manufactures, distributes, and sells natural gas flaring solutions in, at least, Colorado, North Dakota, and Texas. Further, Alkane is registered to do business in Colorado, has infringed Crusoe's patents in Colorado and has interfered with Crusoe's current and prospective business relations in Colorado. *See* Ex. 11.

5. Alkane has, or is going to, acted in concert with third-parties with respect to the facts alleged herein such that any act of these third-parties is attributable to Alkane, and vice versa.

NATURE OF ACTION

6. This is a civil action against Alkane for patent infringement under the United States patent laws, as amended, 35 U.S.C. §§ 101 *et seq*. (the "Patent Laws"), involving U.S. Patent No. 10,862,307 (the "'307 Patent"), U.S. Patent No. 10,862,309 (the "'309 Patent"), U.S. Patent No. 11,437,821 (the "'821 Patent"), and U.S. Patent No. 11,451,059 (the "'059 Patent") (collectively, the "Asserted Patents"). This Court has personal jurisdiction over Alkane because, among other things, Alkane has committed, aided, abetted, or participated in the tortious act of patent infringement in Colorado under 35 U.S.C. § 271 that has led to harm and injury to Crusoe and will lead to further foreseeable harm and injury to Crusoe.

7. The '307 Patent was filed on August 1, 2019 as U.S. Pat. Appl. No. 16/529,152 and, on its face, claims priority to an earlier application filed on August 1, 2018. *See* Ex. 1 at (21), (22), (60). The '307 Patent, entitled "Systems and Methods for Generating and Consuming Power from Natural Gas," was duly and legally issued by the U.S. Patent and Trademark Office on

December 8, 2020. *Id*. at (45), (54). The named inventors of the '307 Patent are Charles Cavness, Chase Lochmiller, and Kenneth Parker. *See id*. at (72). Crusoe is the current lawful owner of the '307 Patent and has the full and exclusive right to bring an action and recover damages for infringement of the '307 Patent. A true and correct copy of the '307 Patent is attached hereto as Exhibit 1.

8. The '309 Patent is a continuation of the '307 Patent. The application for the '309 Patent was filed on November 29, 2019 as U.S. Pat. Appl. No. 16/694,883 and, on its face, claims priority to an earlier application filed on August 1, 2018. *See* Ex. 2 at (21), (22), (63). The '309 Patent, entitled "Systems and Methods for Generating and Consuming Power from Natural Gas," was duly and legally issued by the U.S. Patent and Trademark Office on December 8, 2020. *See id*. at (45), (54). The named inventors of the '309 Patent are Charles Cavness, Chase Lochmiller, and Kenneth Parker. *See id*. at (72). Crusoe is the current lawful owner of the '309 Patent and has the full and exclusive right to bring an action and recover damages for infringement of the '309 Patent. A true and correct copy of the '309 Patent is attached hereto as Exhibit 2.

9. The '821 Patent is in the same family as the '307 Patent and '309 Patent. The application for the '821 Patent was filed on January 13, 2022 as U.S. Pat. Appl. No. 17/575,506 and, on its face, claims priority to an earlier provisional application filed on August 1, 2018. *See* Ex. 10 at (21), (22), (60), (63). The '821 Patent, entitled "Systems and Methods for Generating and Consuming Power from Natural Gas," was duly and legally issued by the U.S. Patent and Trademark Office on September 6, 2022. *See id*. at (45), (54). The named inventors of the '821 Patent are Charles Cavness, Chase Lochmiller, and Kenneth Parker. *See id*. at (72). Crusoe is the current lawful owner of the '821 Patent and has the full and exclusive right to bring an action and

recover damages for infringement of the '821 Patent. A true and correct copy of the '821 Patent is attached hereto as Exhibit 10.

10. The '059 Patent is in the same family as the '307 Patent and '309 Patent. The application for the '059 Patent was filed on January 13, 2022 as U.S. Pat. Appl. No. 17/575,483 and, on its face, claims priority to an earlier provisional application filed on August 1, 2018. *See* Ex. 12 at (21), (22), (60), (63). The '059 Patent, entitled "Systems and Methods for Generating and Consuming Power from Natural Gas," was duly and legally issued by the U.S. Patent and Trademark Office on September 20, 2022. *See id*. at (45), (54). The named inventors of the '821 Patent are Charles Cavness, Chase Lochmiller, and Kenneth Parker. *See id*. at (72). Crusoe is the current lawful owner of the '059 Patent and has the full and exclusive right to bring an action and recover damages for infringement of the '059 Patent. A true and correct copy of the '059 Patent is attached hereto as Exhibit 12.

11. Alkane has and continues to (1) directly infringe at least one claim of each of the Asserted Patents by making, using, selling, offering for sale, and/or importing into the United States, directly or through intermediaries, certain flare gas mitigation products and services ("Accused Products"); and (2) induce users of its flare gas mitigation products and services to infringe at least one claim of each of the Asserted Patents.

12. Further, Alkane willfully infringes at least one claim of the Asserted Patents because, as described below, Alkane knows or should know of Crusoe's innovations and Asserted Patents. With this knowledge, Alkane intentionally engaged in conduct it knew or should have known would infringe or cause infringement of one or more claims of the Asserted Patents.

13. Crusoe seeks monetary and injunctive relief under the Patent Laws.

14. This is also a civil action against Alkane for tortious interference with contractual relations and prospective economic advantage under the common law.

JURISDICTION AND VENUE

15. This Court has subject matter jurisdiction over Crusoe's claims for patent infringement pursuant to 35 U.S.C. §§ 101 *et seq*. and 28 U.S.C. §§ 1331, 1338, and 1400. This Court also has subject matter jurisdiction over Crusoe's state law claims of tortious interference pursuant to 28 U.S.C. § 1338(b), as the claims are joined with Crusoe's substantial and related claims brought under 35 U.S.C. §§ 101 *et seq*. This Court also has supplemental jurisdiction over Crusoe's state law claims pursuant to 28 U.S.C. § 1367.

16. This Court has specific and general personal jurisdiction over Alkane consistent with the requirements of the Due Process Clause of the United States Constitution and the Colorado Long Arm Statute. Due at least to Alkane's substantial business in this forum, including (i) at least a portion (if not all) of the infringement alleged herein is in this District; (ii) Alkane's commission of a tort in this District as alleged herein; and/or (iii) regularly doing or soliciting business, engaging in other persistent courses of conduct, or deriving substantial revenue from contractual agreements, goods and services provided to customers in this District.

17. Specifically, Alkane is doing business in Colorado by entering into contractual relations with a resident of this district, committing acts of patent infringement in this District, and committing tortious activities in this District.

18. Alkane knows, or should know, and intends that its infringing activities will displace sales of Crusoe product causing injury to Crusoe in this District.

19. It is a proper exercise of judicial power in this District to stop Alkane's planned, non-speculative harmful conduct. There exists a causal nexus between Alkane's infringement of the Asserted Patents and the harm to Crusoe.

20. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b)(2) and 1400(b) because Alkane has a regular and established place of business in this District and has committed acts of patent infringement in this District. *See In re Cray Inc.,* 871 F.3d 1355, 1362–63 (Fed. Cir. 2017). A substantial part of the events giving rise to the claims at issue are taking place in this District.

BACKGROUND

I. The Technology

21. In 2018, Denver natives and grade-school friends Charles Cavness ("Charles") and Chase Lochmiller ("Chase") first conceived of Crusoe while hiking in the Rocky Mountains discussing Chase's recent summit of Mt. Everest.

22. After graduating high-school, Charles went to Middlebury College to study geology and entrepreneurship. He then went on to work in natural gas consulting.

23. Meanwhile, Chase attended MIT and gained exposure to the distributed network computing and financial services industries. Eventually, he entered into cryptocurrency investing.

24. Through their work, both Charles and Chase became increasingly aware of and concerned with the negative environmental impacts of their respective industries.

25. Specifically, through his work in natural gas consulting, Charles became increasingly aware of the negative environmental impacts of oil and gas production. In particular, Charles was concerned by the industry's usual approach to handling the excess natural gas

generated during crude oil extraction. Unless an oil well is connected to a gas pipeline, it is difficult and expensive for well operators to transport the excess gas to market, thus, the natural gas becomes "stranded." So, rather than storing or capturing the stranded gas, it is burned on site. This process is known as "flaring."

26. As detailed in the Asserted Patents, an estimated 35 billion cubic feet of natural gas was flared in 2016, which is enough natural gas to provide the energy needed to power 6 million homes. *See* Ex. 1 at 1:52-55; Ex. 2 at 1:56-59. Worse still, over a 20-year period, methane is 80 times more potent than carbon dioxide in terms of its global warming impact. *See Methane emissions are driving climate change. Here's how to reduce them.,* UN ENVIRONMENT PROGRAMME (Aug. 20, 2021).

27. Similarly, Chase came to learn that cryptocurrency mining is an energy intensive process. As detailed in the Asserted Patents, cryptocurrency mining consumes approximately 29 TWh of electricity each year (and likely growing every year), which is equivalent to the power demand of Germany—the largest industrial economy in Europe. *See* Ex. 1 at 2:25-33; Ex. 2 at 2:28-36.

28. During their 2018 hike in the Rocky Mountains, Charles and Chase discussed their shared environmental concerns and the issues posed by their respective industries. They ultimately came to understand that (a) oil and gas would continue to play a vital role in supporting human civilization because a complete transition to renewable energy would take time, and (b) the global cryptocurrency phenomena would continue to demand significant energy resources to sustain the blockchain.

29. Charles and Chase had a "lightbulb" moment, realizing they could solve both problems at once by harvesting stranded natural gas to offset the energy consumed during cryptocurrency mining. Based on that "lightbulb" moment, Charles, Chase, and co-inventor Kenneth Parker (collectively, "the Inventors") conceived of the Digital Flare Mitigation® system, which harnesses stranded natural gas to create on-site power that supports intensive computing functions, such as Bitcoin mining, artificial intelligence, and related functions performed with a distributed computing system.

30. In short, the Inventors engineered a win-win-win-win solution enabling them to (a) eliminate a wasteful practice, (b) off-set an energy intensive computing process, (c) reduce strain on the electricity grid, and (d) amass cryptocurrency assets at the same time.

II. Crusoe

31. In 2018, Charles and Chase founded Crusoe—a young company which today is at the forefront of flare gas mitigation technology. Crusoe's mission is to provide innovative solutions to eliminate natural gas flaring, reduce the cost of computing, and minimize the carbon emissions that accelerate climate change.

32. In the process, Crusoe has pioneered clean computing infrastructure that reduces both the cost and environmental impact of the world's expanding digital economy. Its Digital Flare Mitigation® systems avoid 16,120 tons of carbon dioxide-equivalent emissions each year—almost three times the emissions avoided by wind and solar energy combined—and eliminate up to 98% of methane emissions generated by oil and gas production relative to continued flaring.

33. Powered by stranded natural gas, Crusoe's cloud computing system provides developers with powerful, reliable network solutions, while simultaneously enabling their organizations to make measurable progress toward their environmental goals.

34. As a result of its innovative systems, Crusoe has earned contracts and partnerships with many of North America's oil and gas operators and energy providers.

35. In addition, Crusoe and the Inventors have earned national recognition for their innovations. The Colorado Technology Association awarded Crusoe with the APEX Award for Emerging Technology Company of the Year in 2021—a prestigious honor awarded to Colorado's most innovative technology company which has operated less than five years. *See Colorado Technology Association Announces Crusoe Energy Systems As Winner of Emerging Technology Company of the Year APEX Award,* BusinessWire (Feb. 3, 2021). In the same year, Charles was named Entrepreneur of the Year Mountain Desert Region by Ernst & Young LLP, while Goldman Sachs recognized Chase as one of the 100 Most Intriguing Entrepreneurs of 2021 at its annual Builders + Innovators Summit. *See EY Announces Winners For The Entrepreneur of the Year 2021 Mountain Desert Region Award,* Crusoe Energy Blog (Jul. 28, 2021); *Crusoe Energy Honored By Goldman Sachs for Entrepreneurship,* Crusoe Energy Blog (Oct. 21, 2021). Today, the founders are regularly invited to speak at industry trade shows to tell the story of building Crusoe and developing Crusoe's pioneering Digital Flare Mitigation® system.

36. Crusoe's innovations in the field have also been featured by numerous publications and organizations, including *Bloomberg, CNBC, Forbes Magazine,* and even *Sierra*—the magazine of the Sierra Club. *See* Trung Phan, *Methane is a Big Climate Problem That Bitcoin Can Help Solve,* BLOOMBERG (May 3, 2022); *How Crusoe Energy Systems uses excess natural*

gas to power crypto mining rigs, CNBC (Apr. 5, 2022); Chris Helman, *'Green Bitcoin Mining': The Big Profits In Clean Crypto,* FORBES MAGAZINE (Aug. 2, 2021); *and* Tom Cassauwers, *An Environmental Upside to Bitcoin?,* SIERRA (Mar. 30, 2021).

37. Since its inception, Crusoe has also become an important stakeholder in the local Denver community. It was recently named the number one small company to work for in Colorado by *The Denver Post*. *See* Sara B. Hansen, *Top Workplaces 2022: The best small companies to work for in Colorado,* THE DENVER POST (May 19, 2022). And this year, Crusoe announced its sponsorship of the Denver cohort of the CSforALL Accelerator Program—a two-year, cohort-model program focused on accelerating the progress of local communities towards fundamental standards-aligned computer science education for all learners, and increasing access to interest-driven computer science learning opportunities. *See Crusoe Energy Systems Announces Participation In Program To Expand Equitable Computer Science Education,* Crusoe Energy Blog (June 30, 2022).

38. Crusoe has invested hundreds of millions of dollars in the research and development of its flare gas mitigation solutions, and the resultant intellectual property is one of Crusoe's most important assets. Not resting on its laurels, Crusoe continues to innovate and develop new and exciting flare gas mitigation solutions to this day.

39. Crusoe has obtained patent protection for some of its innovations, and is continuing to seek patent protection for others. For example, Crusoe's innovative Digital Flare Mitigation® system practices—and is thus protected by—one or more claims of the Asserted Patents.

III. Crusoe's Agreement with Colorado Producers

40. In 2021, Crusoe's innovative approach to reducing natural gas flaring garnered the attention of two oil and gas producers operating in Colorado, referred to herein as the "Colorado Producers." Crusoe entered into several agreements with the Colorado Producers to implement its Digital Flare Mitigation® systems at certain of their well pads.

41. Before November 1, 2021, Crusoe had deployed several modules of Crusoe's Digital Flare Mitigation® system equipment—each consisting of two containerized computing units and associated power generation equipment—at the Colorado Producers' well pads to mitigate natural gas flaring.

42. Effective November 1, 2021, Crusoe entered into an additional agreement with the Colorado Producers (the "Agreement"), under which Crusoe would install several more modules of Crusoe's Digital Flare Mitigation® equipment to mitigate natural gas flaring at a well pad in Colorado (the "Colorado Well Pad"). *See* Dkt. No. 40. Pursuant to the Agreement, Crusoe agreed to pay the Colorado Producers a set amount per Mcf for stranded flare gas consumed by the modules, which would in turn be used to power cryptocurrency mining. *See id.* at § 3(a). Crusoe was slated to install the equipment required under the Agreement by August 31, 2022 (the "Deployment Date"). *See id.* at § 1(a).

43. In the months leading up to the Deployment Date, Crusoe expended millions of dollars and significant time and effort ordering the required equipment and coordinating the supply chain to install the agreed-upon modules at the Colorado Well Pad. *See* Dkt. No. 40-1 at ¶ 10, *Declaration of Charles Cavness*. In May 2022, the Colorado Producers contacted Crusoe via email

about increasing their order by an additional module. *Id.* Accordingly, Crusoe believed the Agreement would be carried out as scheduled. *Id.*

44. On or about July 14, 2022, just weeks before the Deployment Date, a representative of the Colorado Producers, informed Andrew Likens, Crusoe's Vice President of Business Development, that the Colorado Producers were canceling the Agreement. *Id.* at ¶ 11. This representative conveyed that the Colorado Producers would instead be working with an alternate flare mitigation operator who was offering to perform essentially the same services Crusoe would have performed under the Agreement—capturing the Colorado Producers' flare gas with gas processing equipment and using it to power Bitcoin mining operations. *Id.*

45. Crusoe was concerned because the equipment it had already ordered could not be easily re-deployed to another site. *Id.* at ¶ 12. The Colorado Well Pad required a large amount of equipment, and it would take Crusoe substantial time to locate another well operator that was interested and had a site capable of supporting the amount of equipment Crusoe had ordered for the Colorado Well Pad. *Id.* Crusoe loses revenue every day the equipment sits idle, which is compounded by the rapid depreciation of the equipment. *Id.* The specialized computing equipment used to mine Bitcoin evolves so quickly that it loses roughly 4% of its value every month. *Id.*

46. Immediately after learning of this phone call to Mr. Likens from the representative of the Colorado Producers, Charles called the President of the Colorado Producers. *Id.* at ¶ 13. Initially receiving no answer, Charles sent a follow-up email explaining that he was seeking to discuss a reasonable solution that would work for all the parties. *Id; see also* Ex. 5. Charles further explained that Crusoe had already ordered the required equipment, and the Colorado Producer's

last-minute termination of the Agreement would put Crusoe in a difficult position. *See* Ex. 5. Ultimately, the parties arranged for an in-person meeting on July 22, 2022. *See* Dkt. No. 40-1 at ¶ 13.

47. On July 22, 2022, Charles, Andrew Likens, and Phil Archer met with three representatives from the Colorado Producers. *See id*. at ¶ 14. The President of the Colorado Producers explained that Crusoe's services would no longer be needed because the Colorado Producers had contracted with Alkane—before terminating the Agreement with Crusoe—to purchase the natural gas extracted at the Colorado Well Pad at a higher price than Crusoe would have paid for it under the terms of the Agreement. Specifically, the Colorado Producers stated that Alkane intended to convert the natural gas to natural gas liquid ("NGL") and liquid natural gas ("LNG") products that can be transported and monetized. *Id.*

48. However, the Colorado Producers explained that Alkane would require a significant amount of time to procure and install its LNG equipment. *See id.* at ¶ 15. Specifically, the Colorado Producers expected the Alkane equipment to be available in approximately forty (40) weeks, but acknowledged the timeline could be as long as a year or more due to ongoing global supply chain constraints. *Id.*

49. For that reason, the Colorado Producers explained that they and Alkane had agreed that, in the interim period, Alkane would minimize natural gas flaring at the Colorado Well Pad by using the gas to mine cryptocurrency. *See id.* at ¶ 16. Alkane offered to pay the Colorado Producers a significantly higher price than Crusoe for the stranded natural gas Alkane would use to mine cryptocurrency. *Id.*

50. The Colorado Producers suggested that Crusoe try to work out another deal with Alkane directly and invited Mr. Ed Woods, Alkane's Vice President, to join the end of the meeting. *Id.* at ¶ 17. Mr. Woods indicated specifically that Alkane would be using stranded flare gas to power computing equipment used to perform cryptocurrency mining at the Colorado Well Pad over the next year. *Id.*

51. On August 26, 2022, *BusinessDen* published an article about the litigation in which Alkane's President, Ryan Blazei, is quoted as stating: "We power customers who mine Bitcoin. However, that's kind of our last resort project. We'll try to make fuel out of it. If we can't make fuel out of it and there's gas that needs to be consumed, we'll turn it into power for Bitcoin miners." Ex. 11. Thus, Alkane does not dispute using stranded natural gas to Bitcoin mine – the heart of the Asserted Patents.

IV. Alkane's Knowledge of Crusoe's Innovative Technology and the Asserted Patents

52. On information and belief, Alkane learned of Crusoe's process of utilizing stranded natural gas to power energy-intensive distributed computing functions at or before the November 14, 2019 North Dakota Energy Development and Transmission Committee meeting.

53. Specifically, on November 14, 2019, Charles presented before the North Dakota Energy Development and Transmission Committee regarding Crusoe's Digital Flare Mitigation® systems. *See id*. at ¶ 21; Ex. 6, *Minutes of the Energy Development and Transmission Committee* (Nov. 14, 2019). Charles described how Crusoe's Digital Flare Mitigation® system converted stranded natural gas into electricity "for energy-intensive computing on the well site[.]" *See* Dkt. No. 40-1 at ¶ 21; Ex. 6 at app. I, slide 2 ("*A New Technology for Flare Mitigation*").

54. Alkane's representative, Ed Woods, was present at the November 14, 2019 committee meeting. *See* Ex. 6 at app. J ("*ND Energy and Transition Committee"*). Thus, on information and belief, Mr. Woods was also present for Charles's presentation concerning Crusoe's Digital Flare Mitigation® system. *See* Dkt. No. 40-1 at ¶ 22.

55. On March 3, 2020, Charles again gave a presentation describing Crusoe's Digital Flare Mitigation® technology and its ability to harness natural gas to power distributing computing functions like cryptocurrency mining at a North Dakota Petroleum Council Technical Solutions meeting hosted by ConocoPhillips. *See* Dkt. No. 40-1 at ¶ 23; Ex. 7, *NDPC Technical Solutions Group Agenda* (Mar. 3, 2020). Alkane's representative, Mr. Woods was also present at this meeting and thus, on information and belief, was present for Charles's presentation.

56. Thereafter, on October 6, 2020, Alkane gave a presentation to the North Dakota Energy Development and Transmission Committee in which Alkane presented a diagram of a flare gas mitigation system that used electricity generated by natural gas to power computing equipment used for "Financial Transactions." *See* Ex. 8, *Energy Development and Transition Committee Meeting Minutes* (Oct. 6, 2020), at app. D, slide 6. These "Financial Transactions" represent cryptocurrency mining operations, as indicated by the Bitcoin symbol.

57. Prior to this time, presentations from Alkane representatives concerning flare gas management were primarily focused on converting natural gas extracted from a wellsite into LNG and capturing NGLs. For example, at the November 14, 2019 meeting of the North Dakota Energy Development and Transmission Committee, Alkane's representative, Mr. Wood, gave a presentation concerning Alkane's flare gas mitigation system, which primarily focused on systems

that "utilize[] captured flare gas for . . . LNG production and NGL capture." Ex. 6 at app. J, slide 3.

58. Thus, sometime between Alkane's November 2019 presentation and its October 2020 presentation, and after two opportunities to learn about Crusoe's patented system, Alkane modified its flare gas mitigation system to power cryptocurrency mining, mirroring Crusoe's patented Digital Flare Mitigation® system. *Compare id. with* Ex. 8 at app. D, slide 6.

59. In the *BusinessDen* article described above, *see supra* ¶ 51, Mr. Blazei is also attributed as stating "Alkane has worked with Crusoe in the past. . . ." *See* Ex. 11 at 2.

60. Upon information and belief, Alkane was aware of Crusoe's innovative flare gas mitigation system at least as early as November 14, 2019. And specifically, Alkane was aware as of this date that Crusoe used energy harnessed from stranded natural gas to power data centers and mine cryptocurrency. *See generally* Ex. 6.

61. Upon information and belief, at least as early as November 14, 2019, Alkane was actively monitoring Crusoe and its business, including any of Crusoe's issued, pending, or filed patent applications.

62. Upon information and belief, Alkane performed due diligence on Crusoe and the innovative services it provides either prior to, or shortly after, the July 22, 2022 meeting.

63. Upon information and belief, Alkane studied Crusoe's patented designs when Alkane worked with Crusoe in the past. Ex. 11.

64. Upon information and belief, as a result these activities, Alkane had actual knowledge of the Asserted Patents, or was willfully blind to the Asserted Patents, before service of this Complaint.

65. In addition, Alkane has actual knowledge of the Asserted Patents by virtue of this litigation and, at least, as of the date it received notice.

CAUSES OF ACTION

I. COUNT ONE: ALKANE'S INFRINGEMENT OF THE 10,862,307 PATENT

66. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

67. Alkane has directly infringed and continues to infringe at least claims 1 and 14-16 of the '307 Patent by making, using, offering for sale, selling, and/or importing products, including at least the Accused Products, that meet every limitation of those claims, either literally or under the doctrine of equivalents, in violation of 35 U.S.C. § 271(a). *See* Ex. 9 at ¶¶ 40–42. Exhibit 9 and the exhibits thereto are hereby incorporated in their entirety.

68. To the extent specific components of the Accused Products are provided and/or operated by Alkane's customers, vendors or agents, Alkane infringes at least claims 1 and 14-16 of the '307 Patent jointly with its customers, vendors, or other agents. On information and belief, Alkane directs and controls the infringing act(s) of one or more third-parties by establishing the manner and timing of the one or more third parties' infringing act(s) and conditioning the participation of an activity or receipt of a benefit upon completion of the infringing act(s). Thus, Alkane and the one or more third-parties jointly infringe the '307 Patent.

69. With knowledge of the '307 Patent, Alkane will actively induce, has actively induced, and continues to induce, its customers and/or end users of the Accused Products to directly infringe one or more claims of the '307 Patent, including claims 1 and 14-16, in violation of 35 U.S.C. § 271(b).

70. Alkane has induced such customers and/or end users to infringe by selling, aiding, providing support for, providing instructions for use of the Accused Products, and/or otherwise encouraging its customers and/or end-users to make, use, sell, or offer for sale the Accused Products to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '307 Patent, including claims 1 and 14-16.

71. As a result of Alkane's inducement, its customers and/or end users operate and/or use the Accused Products, in ways that directly infringe at least one claim of the '307 Patent. Alkane had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of its sales, instruction, and/or otherwise promotion of the Accused Products, as set forth above.

72. As discussed above, Alkane has actual knowledge of the '307 Patent (at least as of the original date of filing of this litigation), and with that knowledge willfully, deliberately, and intentionally infringed (and continues to infringe) the '307 Patent.

73. Crusoe is entitled to recover from Alkane damages at least in an amount adequate to compensate for Alkane's infringement of the '307 Patent, which amount has yet to be determined, together with interest and costs determined by the Court.

74. In addition, for the reasons discussed above, Alkane's infringement of the '307 Patent has been deliberate and willful, and an award of treble damages and attorney's fees is warranted at least under 35 U.S.C. §§ 284, 285.

75. Alkane will continue to infringe the '307 Patent unless and until it is enjoined by this Court. As a result of Alkane's unlawful activities, Crusoe has suffered and continues to suffer irreparable harm. Crusoe has no adequate remedy at law against Alkane's acts of infringement

and, unless Alkane is enjoined from its infringement of the '307 Patent, Crusoe will continue to suffer irreparable harm.

II. COUNT TWO: ALKANE'S INFRINGEMENT OF THE 10,862,309 PATENT

76. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

77. Alkane has directly infringed and continues to infringe at least one claim of the '309 Patent by making, using, offering for sale, selling, and/or importing products, including at least the Accused Products, that meet every limitation, either literally or under the doctrine of equivalents, of at least claims 1 and 14 of the '309 Patent, in violation of 35 U.S.C. § 271(a). *See* Ex. 9 at ¶¶ 43–45. Exhibit 9 and the exhibits thereto are hereby incorporated in their entirety.

78. To the extent specific components of the Accused Products are provided and/or operated by Alkane's customers, vendors or agents, Alkane infringes at least claims 1 and 14 of the '309 Patent jointly with its customers, vendors, or other agents. On information and belief, Alkane directs and controls the infringing act(s) of one or more third-parties by establishing the manner and timing of the one or more third parties' infringing act(s) and conditioning the participation of an activity or receipt of a benefit upon completion of the infringing act(s). Thus, Alkane and the one or more third-parties jointly infringe the '309 Patent.

79. With knowledge of the '309 Patent, Alkane will actively induce, has actively induced, and continues to induce, its customers and/or end users of the Accused Products to directly infringe one or more claims of the '309 Patent, including claims 1 and 14, in violation of 35 U.S.C. § 271(b).

80. Alkane has induced such customers and/or end users to infringe by selling, aiding, providing support for, providing instructions for use of the Accused Products, and/or otherwise

encouraging its customers and/or end-users to make, use, sell, or offer for sale the Accused Products to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '309 Patent, including claims 1 and 14.

81. As a result of Alkane's inducement, its customers and/or end users operate and/or use the Accused Products, in ways that directly infringe at least one claim of the '309 Patent. Alkane had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of its sales, instruction, and/or otherwise promotion of the Accused Products, as set forth above.

82. As discussed above, Alkane has actual knowledge of the '309 Patent (at least as of the original date of filing of the this litigation), and with that knowledge willfully, deliberately, and intentionally infringed (and continues to infringe) the '309 Patent.

83. Crusoe is entitled to recover from Alkane damages at least in an amount adequate to compensate for its infringement of the '309 Patent, which amount has yet to be determined, together with interest and costs determined by the Court.

84. In addition, for the reasons discussed above, Alkane's infringement of the '309 Patent has been deliberate and willful, and an award of treble damages and attorney's fees is warranted at least under 35 U.S.C. §§ 284, 285.

85. Alkane will continue to infringe the '309 Patent unless and until it is enjoined by this Court. As a result of Alkane's unlawful activities, Crusoe has suffered and continues to suffer irreparable harm. Crusoe has no adequate remedy at law against Alkane's acts of infringement and, unless Alkane is enjoined from its infringement of the '309 Patent, Crusoe will continue to suffer irreparable harm.

III. COUNT THREE: ALKANE'S INFRINGEMENT OF THE 11,437,821 PATENT

86. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

87. Alkane has directly infringed and continues to infringe at least one claim of the '821 Patent by making, using, offering for sale, selling, and/or importing products, including at least the Accused Products, that meet every limitation, either literally or under the doctrine of equivalents, of at least claims 1-3, 5-8, and 15 of the '821 Patent, in violation of 35 U.S.C. § 271(a). *See* Ex. 9 at ¶¶ 46–48. Exhibit 9 and the exhibits thereto are hereby incorporated in their entirety.

88. To the extent specific components of the Accused Products are provided and/or operated by Alkane's customers, vendors or agents, Alkane infringes at least claims 1-3, 5-8, and 15 of the '821 Patent jointly with its customers, vendors, or other agents. On information and belief, Alkane directs and controls the infringing act(s) of one or more third-parties by establishing the manner and timing of the one or more third parties' infringing act(s) and conditioning the participation of an activity or receipt of a benefit upon completion of the infringing act(s). Thus, Alkane and the one or more third-parties jointly infringe the '821 Patent.

89. With knowledge of the '821 Patent, Alkane will actively induce, has actively induced, and continues to induce, its customers and/or end users of the Accused Products to directly infringe one or more claims of the '821 Patent, including claims 1-3, 5-8, and 15, in violation of 35 U.S.C. § 271(b).

90. Alkane has induced such customers and/or end users to infringe by selling, aiding, providing support for, providing instructions for use of the Accused Products, and/or otherwise encouraging its customers and/or end-users to make, use, sell, or offer for sale the Accused

Products to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '821 Patent, including claims 1-3, 5-8, and 15.

91. As a result of Alkane's inducement, its customers and/or end users operate and/or use the Accused Products, in ways that directly infringe at least one claim of the '821 Patent. Alkane had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of its sales, instruction, and/or otherwise promotion of the Accused Products, as set forth above.

92. As discussed above, Alkane has actual knowledge of the '821 Patent (at least as of the date the '821 Patent was added to this litigation), and with that knowledge willfully, deliberately, and intentionally infringed (and continues to infringe) the '821 Patent.

93. Crusoe is entitled to recover from Alkane damages at least in an amount adequate to compensate for its infringement of the '821 Patent, which amount has yet to be determined, together with interest and costs determined by the Court.

94. In addition, for the reasons discussed above, Alkane's infringement of the '821 Patent has been deliberate and willful, and an award of treble damages and attorney's fees is warranted at least under 35 U.S.C. §§ 284, 285.

95. Alkane will continue to infringe the '821 Patent unless and until it is enjoined by this Court. As a result of Alkane's unlawful activities, Crusoe has suffered and continues to suffer irreparable harm. Crusoe has no adequate remedy at law against Alkane's acts of infringement and, unless Alkane is enjoined from its infringement of the '821 Patent, Crusoe will continue to suffer irreparable harm.

IV. COUNT FOUR: ALKANE'S INFRINGEMENT OF THE 11,451,059 PATENT

96. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

97. Alkane has directly infringed and continues to infringe at least one claim of the '059 Patent by making, using, offering for sale, selling, and/or importing products, including at least the Accused Products, that meet every limitation, either literally or under the doctrine of equivalents, of at least claims 1, 3-4, 6, 10, 12, 15, 16-17, 19, 20, 22, 24, and 27 of the '059 Patent, in violation of 35 U.S.C. § 271(a). *See* Ex. 9 at ¶¶ 49-51. Exhibit 9 and the exhibits thereto are hereby incorporated in their entirety.

98. To the extent specific components of the Accused Products are provided and/or operated by Alkane's customers, vendors or agents, Alkane infringes at least claims 1, 3-4, 6, 10, 12, 15, 16-17, 19, 20, 22, 24, and 27 of the '059 Patent jointly with its customers, vendors, or other agents. On information and belief, Alkane directs and controls the infringing act(s) of one or more third-parties by establishing the manner and timing of the one or more third parties' infringing act(s) and conditioning the participation of an activity or receipt of a benefit upon completion of the infringing act(s). Thus, Alkane and the one or more third-parties jointly infringe the '059 Patent.

99. With knowledge of the '059 Patent, Alkane will actively induce, has actively induced, and continues to induce, its customers and/or end users of the Accused Products to directly infringe one or more claims of the '059 Patent, including claims 1, 3-4, 6, 10, 12, 15, 16-17, 19, 20, 22, 24, and 27 , in violation of 35 U.S.C. § 271(b).

100. Alkane has induced such customers and/or end users to infringe by selling, aiding, providing support for, providing instructions for use of the Accused Products, and/or otherwise

encouraging its customers and/or end-users to make, use, sell, or offer for sale the Accused Products to directly infringe, either literally and/or under the doctrine of equivalents, one or more claims of the '059 Patent, including claims 1, 3-4, 6, 10, 12, 15, 16-17, 19, 20, 22, 24, and 27.

101. As a result of Alkane's inducement, its customers and/or end users operate and/or use the Accused Products, in ways that directly infringe at least one claim of the '059 Patent. Alkane had actual knowledge of its customers' and/or end users' direct infringement at least by virtue of its sales, instruction, and/or otherwise promotion of the Accused Products, as set forth above.

102. As discussed above, Alkane has actual knowledge of the '059 Patent (at least as of the date the '059 Patent was added to this litigation), and with that knowledge willfully, deliberately, and intentionally infringed (and continues to infringe) the '059 Patent.

103. Crusoe is entitled to recover from Alkane damages at least in an amount adequate to compensate for its infringement of the '059 Patent, which amount has yet to be determined, together with interest and costs determined by the Court.

104. In addition, for the reasons discussed above, Alkane's infringement of the '059 Patent has been deliberate and willful, and an award of treble damages and attorney's fees is warranted at least under 35 U.S.C. §§ 284, 285.

105. Alkane will continue to infringe the '059 Patent unless and until it is enjoined by this Court. As a result of Alkane's unlawful activities, Crusoe has suffered and continues to suffer irreparable harm. Crusoe has no adequate remedy at law against Alkane's acts of infringement and, unless Alkane is enjoined from its infringement of the '059 Patent, Crusoe will continue to suffer irreparable harm.

V. COUNT FIVE: TORTIOUS INTERFERENCE WITH CONTRACT

106. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

107. At the time of the events described above, *see supra,* ¶¶ 40–51, a valid contract (the Agreement) existed between Crusoe and the Colorado Producers related to Crusoe's provision of flare gas mitigation services for the Colorado Producer's oil operations at the Colorado Well Pad. *See* Dkt. No. 40.

108. On information and belief, Alkane knew or reasonably should have been aware of the existing Agreement between Crusoe and the Colorado Producers at the time it negotiated a new agreement with the Colorado Producers to replace Crusoe as the provider of flare gas mitigation services at the Colorado Well Pad.

109. On information and belief, Alkane intentionally and by design induced the Colorado Producers to breach the Agreement with Crusoe and thereby usurp Crusoe as the provider of flare gas mitigation services at the Colorado Well Pad. Alkane's unlawful actions were the proximate cause of damage to Crusoe by causing the Colorado Producers to terminate the Agreement with Crusoe.

110. Alkane's solicitation of the Colorado Producer's business was improper and wrongful and not done pursuant to any commercial privilege to compete, particularly where the Agreement imposed a fee for early termination of the Agreement. *See* Dkt. No. 40 at §§ 1(e), 8(c).

111. Crusoe has been damaged by Alkane's interference and sues for its actual damages and consequential losses in an amount to be determined.

VI. COUNT SIX: TORTIOUS INTERFERENCE WITH PROSPECTIVE BUSINESS ADVANTAGE

112. Crusoe incorporates all previous paragraphs by reference as if fully set forth herein.

113. At the time of the events described above, *see supra* ¶¶ 40–51, Crusoe had an expectancy of an ongoing relationship with the Colorado Producers, whereby Crusoe would provide flare gas mitigation services at the Colorado Well Pad, pursuant to the terms of the Agreement.

114. On information and belief, Alkane was aware of the prospective relationship between Crusoe and the Colorado Producers related to Crusoe's provision of flare gas mitigation services at the Colorado Well Pad for the duration of the Agreement.

115. Upon information and belief, Alkane intentionally and improperly misrepresented its ability to lawfully provide comparable services to the Colorado Producers, and—but for these misrepresentations—Crusoe was reasonably certain to continue providing flare gas mitigation services at the Colorado Well Pad. Alkane's actions interfered with Crusoe's prospective business advantage with the Colorado Producers and was the proximate cause of damage to Crusoe.

116. Crusoe has been damaged by Alkane's interference and sues for its actual damages and consequential losses in an amount to be determined at trial.

DEMAND FOR JURY TRIAL

117. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Crusoe demands a trial by jury on all issues triable of right by a jury.

PRAYER FOR RELIEF

118. Crusoe respectfully requests that the Court:

A. Enter judgment in Crusoe's favor and against Alkane on all causes of action alleged herein;

B. Adjudge that Alkane has and is infringing the Asserted Patents, that Alkane tortiously interfered with Crusoe's contract, and/or that Alkane tortiously interfered with Crusoe's prospective business advantage;

C. Enter a permanent injunction restraining Alkane, and its agents, servants, employees, attorneys, successors and assigns, and all persons, firms, and corporations acting in concert with it, from infringing the Asserted Patents, including an order enjoining the marketing, making, manufacture, sale, offer for sale, use, and/or importation of all Alkane products found to infringe;

D. Award Crusoe damages in an amount adequate to compensate Crusoe for Alkane's infringement of the Asserted Patents;

E. Adjudge that Alkane's infringement of the Asserted Patents has been willful;

F. Award enhanced damages pursuant to 35 U.S.C. § 284;

G. Award actual damages and consequential damages for the torts committed as plead in this Complaint;

H. Enter an order finding that this is an exceptional case and awarding Crusoe its costs, attorney's fees, and expenses, whether under 35 U.S.C. § 285, or otherwise;

I. Award pre-judgment and post-judgment interest on the damages awarded at the highest rate allowed by law;

J. Order an accounting of all damages;

K. Grant Crusoe such other and further relief, in law or in equity, as the Court may deem to be just and proper.

Dated: October 26, 2022

Respectfully submitted,

/s/ *Brett C. Govett*
Brett C. Govett

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on October 26, 2022 all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system. Any other counsel of record will be served in accordance with the Federal Rules of Civil Procedure.

/s/ *Brett C. Govett*
Brett C. Govett