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

CRUSOE ENERGY SYSTEMS LLC,	§	
	§	
Plaintiff,	§	
	§	Civil Action No.
v.	§	
	§	
ALKANE MIDSTREAM LLC,	§	
	§	
Defendant.	§	

DECLARATION OF CHARLES CAVNESS

1. My name is Charles Cavness. I am the President and Co-Founder of Crusoe Energy Systems LLC ("Crusoe"). Because of my position at Crusoe and involvement in the events discussed, I have personal knowledge of the facts stated in this Declaration and believe they are true and correct.

I. Crusoe's Intellectual Property

2. I founded Crusoe Energy Systems LLC with Chase Lochmiller in 2018 with the mission of providing innovative solutions to eliminate natural gas flaring, reduce the cost of computing, and minimize the carbon emissions that accelerate climate change. Specifically, we wanted to tackle the problem of energy waste and gas flaring in the oil and gas industry and the problem of rapidly increasing energy demand from computing industries and data centers. We set out to accomplish these goals by thinking outside of the box, developing new, cutting-edge technology, and taking the technical and financial risks associated with building a business around that new technology.

3. Since Crusoe was founded, the company has invested hundreds of millions of dollars in the development of technology that would accomplish Crusoe's mission. Through

these efforts, Chase and I—along with Kenneth Parker—developed the Digital Flare Mitigation® system. Our scalable, Digital Flare Mitigation® system reduces flaring by harnessing that otherwise wasted energy to power computer systems that can be used to conduct energy-intensive computing operations. Some examples of energy-intensive computing operations are cryptocurrency mining, cloud computing, graphical rendering, artificial intelligence training, and medical research.

4. We sought and obtained patent protection for the technology utilized by our Digital Flare Mitigation® system, and that intellectual property is one of Crusoe's most important assets.

5. Propelled by our intellectual property, we found success in our home state of Colorado and beyond. We won contracts with many of North America's oil and gas operators to provide flare gas mitigation services—using our Digital Flare Mitigation® system—at their well sites. Today, Crusoe operates more than 100 Digital Flare Mitigation® modular data centers and works with oil producers ranging from small private companies to the largest public companies.

6. Crusoe has also earned significant industry acknowledgement and accolades for developing Digital Flare Mitigation® as a novel solution to solve the widespread problem of natural gas flaring. For example, Crusoe's technology has been featured—and praised—by major news outlets including *Bloomberg*, *CNBC*, and *Forbes Magazine*. Today, I am regularly invited to speak at industry trade shows to tell the story of pioneering Digital Flare Mitigation® and building Crusoe Energy Systems. I was awarded Ernst & Young's Entrepreneur of the Year Award in 2021, and Crusoe won awards for innovation, clean technology and engineering from Goldman Sachs, *Exploration & Production Magazine*, *The Denver Post*, the Colorado Technology Association, and many others.

II. Alkane's Sale of Infringing Products to Crusoe's Colorado Customers

7. In 2021, Crusoe's innovative approach to reducing natural gas flaring garnered the attention of two specific oil and gas producers operating in Colorado: Gondola Resources, LLC ("Gondola") and Modiin Energy NPB, LLC ("Modiin"). Crusoe entered into several agreements with Gondola and Modiin to implement its Digital Flare Mitigation® system at certain of their well pads.

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

9. Effective November 1, 2021, Crusoe entered into an additional agreement with Gondola and Modiin to install five more modules of Crusoe's Digital Flare Mitigation® equipment, this time to mitigate natural gas flaring at Gondola and Modiin's Surprise 4 Pad located in Jackson County, Colorado (the "Agreement"). Pursuant to the Agreement, Crusoe agreed to pay Gondola and Modiin [redacted] per Mcf for stranded flare gas consumed by the modules, which would in turn be used to power Bitcoin mining. Crusoe was slated to install the equipment required under the Agreement by August 31, 2022 (the "Deployment Date").

10. 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 Surprise 4 Pad. In May 2022, Gondola and Modiin contacted Crusoe via email about increasing their order by an additional module, which would bring the total number of modules required under the Agreement to six. Accordingly, we had no reason to believe the Agreement would not be carried out as scheduled.

11. On or about July 14, 2022, just weeks before the Deployment Date, I was informed by Crusoe's Vice President of Business Development, Andrew Likens, that he had received a phone call from Mr. Ryan Sullivan, a representative of Gondola, informing him that Gondola and Modiin were canceling the Agreement. Specifically, I understood that Mr. Sullivan said he had been dreading the phone call for some time, but that Gondola planned to terminate the Agreement and would instead be working with an alternate flare mitigation operator.

12. We felt blind-sided, and were further concerned because the equipment we had already ordered could not be easily re-deployed to another site. The Surprise 4 Pad required a large amount of equipment, and it would take Crusoe substantial time to locate another well operator that was (a) interested, and (b) had a site capable of supporting the amount of equipment we ordered for the Surprise 4 Pad. Not only that, but Crusoe loses revenue every day the equipment sits idle, which is compounded by the rapid depreciation of the equipment. The specialized computing equipment used to mine Bitcoin evolves so quickly that it loses roughly 4% of its value every month.

13. Immediately after learning of Mr. Sullivan's phone call to Andrew, I called Mr. Brad Morse, the President of Gondola. He initially did not answer, so I sent a follow-up email seeking to discuss a reasonable solution that would work for all the parties. In the email, I explained that Crusoe had already ordered the required equipment, and Gondola and Modiin's last-minute termination of the Agreement would put Crusoe in a difficult position. Ultimately, we arranged for an in-person meeting on July 22, 2022.

14. On July 22, 2022, Andrew Likens, Phil Archer, and I met with three representatives from Gondola: Brad Morse, Ryan Sullivan, and Jason Schmidt. Mr. Morse explained that Crusoe's services would no longer be needed because Gondola had already

contracted with Alkane Midstream LLC ("Alkane")—before terminating the Agreement with Crusoe—to purchase the natural gas extracted at the Surprise 4 Pad at a higher price than Crusoe would have paid for it under the terms of the Agreement. Specifically, Gondola 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.

15. However, Mr. Morse and his team explained that it would require a significant amount of time for Alkane to procure and install its LNG equipment. Specifically, the team 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.

16. For that reason, Mr. Morse explained that Gondola and Alkane also agreed that, in the interim period, Alkane would provide flare mitigation in essentially the same way Crusoe would have done under the Agreement—by using flare gas to generate electricity, which would in turn be used to power computer equipment for Bitcoin mining. Alkane offered to pay Gondola and Modiin a significantly higher price than Crusoe for the stranded natural gas: [redacted] per Mcf.

17. Gondola suggested we 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. Mr. Woods indicated specifically that Alkane would be using stranded flare gas to power computing equipment used to perform cryptocurrency mining at the Surprise 4 Pad over the next year. He also explained that Alkane had previously operated Bitcoin mining operations using stranded flare gas, which is consistent with what I have heard from others in the industry.

18. Mr. Morse also stated Gondola received a variance from the Colorado Oil & Gas Conservation Commission ("COGCC") in order to flare stranded natural gas in an amount that would normally be prohibited. The COGCC has essentially banned routine flaring in Colorado, so a variance is required to obtain a temporary exception to the applicable regulations limiting flaring. While I have not personally reviewed Gondola's variance, I understand that the requestor of a variance typically has to represent that they will undertake steps to reduce flaring in order to receive a variance.

19. However, NGL operations like Alkane's offering only utilize 15-20% of the volume of natural gas produced at a wellsite, a flare mitigation percentage that is substantially lower than the near complete mitigation rates available through Digital Flare Mitigation®. This 15-20% range was confirmed during the July 22 meeting by members of Gondola's team. Accordingly, the remaining gas volume after Alkane's NGL operation must either be flared or utilized in an alternative way, e.g., to power Bitcoin mining. But if Alkane is not ready or able to consume the excess stranded flare gas to power Bitcoin mining, then my understanding is that Gondola will be in violation of the spirit of if not the letter of its variance. I believe that until Alkane's LNG system is ready for commissioning, taking proper steps to reduce flaring of the residual natural gas using Crusoe's Digital Flare Mitigation® system is in the interest of the public to reduce waste, prevent emissions and comply with the spirit of if not the conditions of an approved variance.

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

20. The July 22, 2022 meeting was not the first time I had encountered Alkane. Since founding Crusoe in 2018, I have attended several industry events at which a representative (or representatives) from Alkane was also present.

21. Specifically, on November 14, 2019, I gave a presentation to the North Dakota Energy Development and Transmission Committee regarding Crusoe's Digital Flare Mitigation® system. During that presentation, I described in detail how Crusoe's Digital Flare Mitigation® system converts stranded natural gas into electricity "for energy-intensive computing on the well site."

22. Mr. Ed Woods, Alkane's Vice President, also attended the November 14, 2019 committee meeting and presented later that day. Accordingly, I believe he was present for my presentation concerning Crusoe's Digital Flare Mitigation® system.

23. On March 3, 2020, I again gave a presentation in which I described Crusoe's patent-pending Digital Flare Mitigation® technology and its ability to harness natural gas to power distributed computing functions like cryptocurrency mining. This time the presentation was to the North Dakota Petroleum Council Technical Solutions meeting, which was hosted by ConocoPhillips. Mr. Woods was also present at this meeting and thus I believe he may have been present for my presentation.

IV. Crusoe Has Suffered Irreparable and Immeasurable Harm

24. As described above, Crusoe has lost a lucrative contract with two of its Colorado customers, Gondola and Modiin, due to Alkane's sale of its infringing product in the marketplace. Alkane enticed Gondola and Modiin to terminate Crusoe's services and instead retain Alkane by offering Gondola and Modiin more favorable financial terms.

25. If Alkane is allowed to continue to market its infringing flare gas mitigation services to Crusoe's current and potential customers on more favorable financial terms (i.e., by offering to purchase stranded flare gas at an inflated price), Crusoe will be forced to match Alkane's financial terms by paying its customers more for natural gas in order to compete or else be forced out of the market.

26. Crusoe's margins account for the significant up-front investments it has made in developing its patented technology as well as the rapid depreciation of the computing hardware involved in Bitcoin mining. Being forced to pay higher prices would cut off Crusoe's ability to recover those investments, which is vital to Crusoe's financial stability. Thus, if Crusoe continues to lose contracts to Alkane due to its sale of infringing products, Crusoe stands to lose additional customers and revenue.

27. Further, Crusoe structures its business deals so that it can ensure it is a reliable partner to its customers. That includes setting a realistic price we know we can continue to pay in the long-term despite fluctuations in the value of Bitcoin—Crusoe has been through enough Bitcoin cycles to know it is imperative to pay rates that are commercially sustainable.

28. Alkane has caused significant harm by proposing an uneconomical business model to Crusoe's current and potential customers. It is not sustainable to pay [redacted] per Mcf for stranded flare gas that would otherwise be disposed of as waste. I believe Alkane is offering this high price to secure business for its larger and more lucrative NGL and LNG operations.

29. Even if Alkane is prevented from selling or offering to sell its infringing product in the future, the damage it has caused in so doing cannot be undone. Crusoe could lose goodwill with its customers if it attempts to continue its typical financial terms as opposed to matching the economically unsustainable terms of Alkane. Continuing Crusoe's typical financial terms is necessary to allow Crusoe to remain profitable and recoup its research and development costs as well as asset-level investments. In addition, Crusoe will suffer damage to goodwill with existing and potential customers as they learn about Alkane's rates and begin to falsely regard Crusoe as underpaying for stranded flare gas. This false impression is a big concern. Crusoe's

pricing is fair and accounts for the fluctuations in Bitcoin we have experienced over our tenure, the costs of pioneering the technology and is sustainable on a long term basis.

30. In addition, prior to Alkane's introduction of its infringing product, Crusoe was the only company offering flare gas mitigation services in the marketplace at a scale that could support the natural gas operations of large producers. That is because Crusoe has invested heavily in perfecting the operation, reliability, and scalability of its Digital Flare Mitigation® system. I do not believe Alkane can deliver an equivalent service. However, the fact that they are displacing us in the marketplace may lead Crusoe's customers to believe Crusoe is not a pioneering, innovative company, which the Patent Office has confirmed through issuance of patents on our technology. This can and will cause customer confusion, which will damage the brand and reputation Crusoe has worked hard to build since inception. The industry recognition I mentioned previously is proof of our exceptional brand. Alkane has left us no choice but to protect our intellectual property and enforce our patent rights.

31. Finally, even if Crusoe were to obtain a legal judgment against Alkane, I do not know whether Alkane has sufficient assets to satisfy a monetary judgment. My belief is that Alkane does not have the financial wherewithal based on the size of Alkane which includes the number of employees and the sparse content of its single webpage internet site https://alkanenrg.com.

Pursuant to 28 U.S.C. § 1741, I, Charles Cavness, certify under penalty of perjury that the foregoing is true and correct.

Executed on this 21st day of August, 2022 in Denver, Colorado.

Charles Cavness