

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

UPSTREAM DATA INC.,)	
)	
Plaintiff,)	
)	
v.)	Civil Action No.
)	
)	JURY TRIAL DEMANDED
CRUSOE ENERGY SYSTEMS LLC,)	
)	
Defendant.)	

COMPLAINT

Plaintiff Upstream Data Inc. (“Plaintiff” or “Upstream”), by its attorneys, brings this action for damages and injunctive relief against Crusoe Energy Systems, LLC (“Defendant” or “Crusoe”) for patent infringement. Upstream alleges, based on personal knowledge with respect to its own actions and upon information and belief with respect to all others’ actions, as follows:

NATURE OF THE ACTION

1. This is a civil action against Crusoe for patent infringement under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, of U.S. Patent No. 11,574,372 (“the ’372 Patent”). A true and correct copy of the ’372 Patent is attached hereto as Exhibit 1.

PARTIES

2. Plaintiff Upstream is a Canadian corporation with its principal place of business located at 4702 40 Ave., Lloydminster, Canada, S9V 2B6.

3. Defendant Crusoe is a Delaware limited liability company with its principal place of business located at 1641 California Street, Floor 4, Denver, Colorado 80202.

4. Crusoe makes, markets, sells, offers to sell, manufactures, distributes, and operates flare gas capture technology, e.g., Crusoe’s so-called “Digital Flare Mitigation” or similar technology comprising cryptocurrency mining systems connected to sources of stranded natural gas in, at least, Colorado, North Dakota, and Texas. Further, Crusoe is registered to do business in Colorado and has infringed Upstream’s ’372 Patent in Colorado and in other states where it does business.

JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction over Plaintiff Upstream’s patent infringement claims pursuant to 28 U.S.C. §§ 1331 and 1338(a) because they arise under the laws of the United States, specifically those related to the infringement of U.S. Patents, 35 U.S.C. § 1, *et seq.*

6. This Court has specific and general personal jurisdiction over Crusoe at least because it makes and uses infringing products and methods in this judicial district and markets, distributes, offers for sale, uses, and/or sells infringing products and methods throughout the United States from this judicial district. This Court further has specific personal jurisdiction over Crusoe, because, as described herein, it purposefully avails itself, and enjoys the benefits, of the laws of Colorado, it has sufficient minimum contacts with the State of Colorado and this judicial district, this action arises out of these contacts, and exercising jurisdiction over Crusoe would be reasonable and comport with the requirements of due process. For example, Crusoe manufactures containerized modular cryptocurrency mining systems connected to sources of stranded natural gas, e.g., so-called “Digital Flare Mitigation” systems (hereinafter referred to as “Infringing Crusoe Products”), in this district. Moreover, Crusoe uses its facilities in this district to enter into contracts to install and operate Infringing Crusoe Products, as well as to actually

install, operate and service Infringing Crusoe Products. Crusoe has previously availed itself of this Court's jurisdiction by commencing patent litigation in this district, including through Crusoe's filing of a complaint against a customer of Upstream in *Crusoe Energy Systems LLC v. Alkane Midstream LLC*, DCO-1-22-cv-02142, and a copy of this complaint is attached as Exhibit 2. (Alkane Midstream LLC is hereinafter referred to as Alkane.) Crusoe's allegations within that complaint further confirm Crusoe's significant and substantial contacts with this district.

7. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 and 28 U.S.C. § 1400(b) at least because Crusoe has committed acts of infringement and has regular and established places of business in this district.

FACTUAL BACKGROUND

8. As detailed in the '372 Patent, many remote oil and gas sites are located in unpopulated areas that are hundreds of kilometers outside of the nearest towns. *See* Ex. 1 at col. 8:20-24. Such wells produce natural gas, including as a by-product of oil production at the well site. *See e.g.*, Ex. 1 at col. 6:34-54. Due to their remoteness, many natural gas-producing well sites cannot economically process and sell their gas; instead the gas is vented to the atmosphere or flared (burned) at the well site. *See e.g.*, Ex. 1 at col. 7:46-8:10. Either option is (1) wasteful and (2) harmful to the environment due to the release of greenhouse gasses such as methane and/or CO₂. *Id.* Gas that must be vented or flared because the remote production site lacks the infrastructure (e.g., a pipeline) to deliver it to a user is sometimes called "stranded gas."

9. The problem of stranded gas is vexing and pervasive. Vented methane is a powerful greenhouse gas that can be 80 times more potent at warming than carbon dioxide over a 20-year period as estimated by a recent United Nations report. *See* <https://www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them>. The

World Bank estimates that 139 billion cubic meters of natural gas is flared each year, enough gas to power the whole of sub-Saharan Africa. *See*

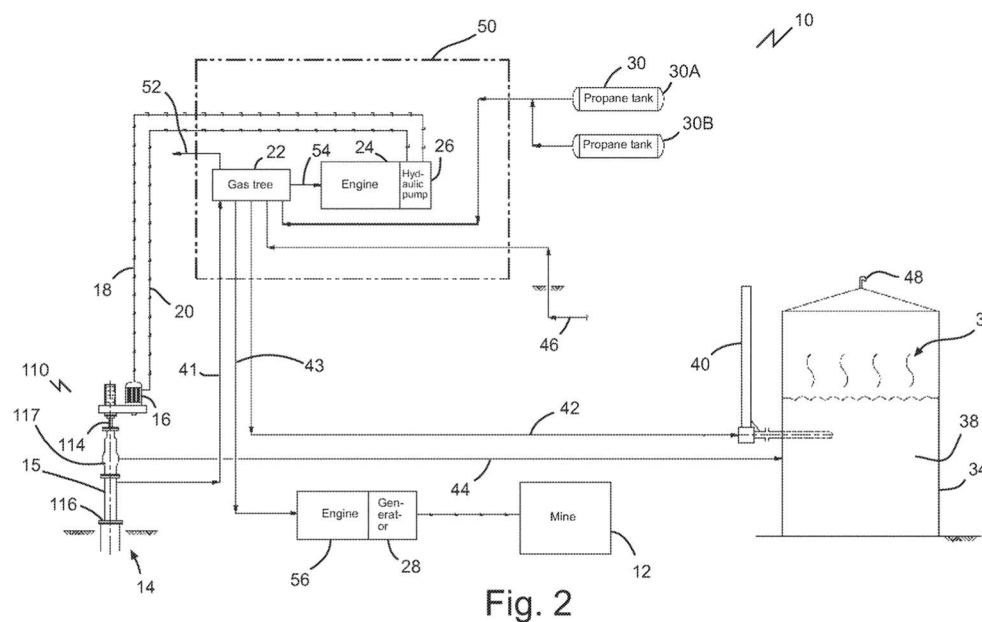
<https://www.worldbank.org/en/programs/gasflaringreduction/gas-flaring-explained>. The flaring results in 350 million tons of CO₂ equivalent emissions annually. *Id.*

10. Stephen Barbour, the sole named inventor of the '372 patent and the founder of Upstream, set out to find a solution to provide well owners and operators with an incentive to stop the wasteful venting and flaring of stranded gas. Mr. Barbour realized that the gas could be effectively “un-stranded” by converting it at the well site to a digital currency such as Bitcoin.

11. As is well-known and described in the '372 Patent, generating a digital currency (also known as a cryptocurrency) such as Bitcoin is referred to as blockchain mining and involves energy-intensive computational efforts comprising running a cryptographic hashing algorithm on specialized mining processors. *See* Ex. 1 at col. 13:5-52, 17:9-22. Since the energy cost of running blockchain mining equipment is the primary operating cost, cryptocurrency miners traditionally congregate in locales with cheap electric power such as China. *See* Ex. 1 at col. 14:4-20. Such concentration is undesirable because it undermines the distributed and secure architecture of the cryptocurrency. *Id.* Of course, it is also costly because the energy consumed by blockchain mining could be put to other productive uses.

12. Mr. Barbour conceived of and reduced to practice a pioneering solution to the stranded gas problem which had the further benefit of allowing blockchain mining without costly energy consumption and undesirable concentration. This pioneering technology is described in the '372 patent which claims priority to a February 8, 2017 provisional application by Mr. Barbour.

13. By way of an illustration, Fig. 2 of the '372 patent shows an embodiment of Mr. Barbour's invention comprising a system for powering a blockchain mine at a remote oil well 14 where the well site is equipped with an engine 56 using stranded gas to drive a generator 28 powering a Bitcoin mine 12:



14. Embodiments of the inventive stranded gas blockchain mining system are containerized or enclosed on a skid or trailer for ease of installation and maintenance at remote and difficult-to-access well sites as illustrated in Fig. 6. Exemplary components of a blockchain mine are illustrated in Fig. 4 and include multiple mining processors 92; cooling equipment such as ventilation fan 76; various electrical power distribution and transformation components; network equipment 88 to wirelessly connect the remote mine to the internet; and a controller 86 to manage and modulate mine operation automatically and in response to energy availability.

15. In 2017 Mr. Barbour founded Upstream to develop, manufacture and commercialize his breakthrough invention. To date Upstream has deployed over 350 Bitcoin mining systems at hundreds of remote well sites across U.S. and Canada thereby alleviating the

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