

# Sarah Thomas Moffat

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Goes Off the Grid for

# Klondike Trappers

By FANEN CHIAHEMEN

**K**londike Trappers, a History Channel survival documentary series (airing as *Great Wild North* in the United States), follows a group of men and women pursuing the ancient practice of fur trapping as a way of life in the frozen wilderness of Alaska and the Yukon. Produced by Paperny Entertainment, the adventure series chronicles the daily lives of the families who live and thrive in the dead of the wild Yukon winter.

Series DP and associate CSC Sarah Thomas Moffat spent roughly three months living off the grid in the Yukon where temperatures were regularly 40 below and daylight rarely lasted longer than six hours. Although Moffat has shot off the grid in many parts of the world, the parameters of the environment for *Klondike Trappers* were quite different “due to the extreme frozen temperatures and massive unforgiving landscape,” she says. “You must be physically fit.”

Moffat says she has been an outdoors person since childhood, is athletic and has participated in a lot of extreme sports. “That has definitely carried over into my career and the type of cinematography I do a lot of right now,” she says. “Having that natural athleticism and stamina and a passion for the great outdoors has definitely helped make it a more enjoyable experience while working in these environments. When camera assistants ask me for advice because they want to try this kind of work, one of the first things I say is, ‘Get a gym membership.’”

Moffat and her team had just a couple of weeks of preproduction on *Klondike Trappers*, and during that time, as the series DP, Moffat established the look of the show, how it was going to be shot, as well as how the team was going to manage consistency in all locations.

Moffat approached the cinematography as picture management for the particular environment as Paperny has traditionally shot their factual content on Sony F800s and F700s, ENG-style, off-the-shoulder, run-and-gun newsgathering cameras, using standard ENG styled HD zoom lenses. The F700 shoots solid state, and the F800 shoots on disks, but both cameras have small sensors, and Moffat says this was her first challenge going into a high-contrast situation.

She therefore programmed two scene files into the cameras that would allow for her and the operators in the field to have a low-light option and a standard daylight option for shooting. “Inspired Image Picture Company in British Columbia facilitated the space for me to bring the cameras in and hook them up to a waveform monitor and a vector scope to work in the highlights and low lights,” she explains. “From there I did a field test and tweaked. Once I was set, I personally



Despite the physical challenges of the locations the Aurora Borealis was a remarkable sight to behold, Moffat says.



*Klondike Trappers* was shot in an environment of extreme frozen temperatures and massive unforgiving landscape, Moffat says.

programmed all cameras going out. When on location I created a backup card with the stored files which stayed in the production house in Dawson City, Yukon. All additional replacement bodies were then instructed to be programmed from this card. Maintaining consistency in picture was one of my top priorities.

“It was a huge technical challenge to manage the high-contrast environment,” she continues. “During the daylight hours, the sun only reached an approximate 45-degree angle to the earth, which created an overly intense skip off the snow. The bounce effect, as a result of a white hot sun and white hot snow meeting at the horizon at all hours, made for high risks on over-exposing shots. In contrast, our subjects were also moving through dense forests, along river edges. In the same frame at any given time I knew we could be dealing with hot sun and snow and deep shade all in a small-sensor camera not designed to handle those lighting conditions.”

To manage this, Moffat says she instructed the crew “to do absolutely religious programming of the specific scene files and programming of correct white balances, consistently throughout the day and throughout the dark light to make sure everyone’s shots were in relative consistency on exposure, lighting, look and colour.” She also stressed the importance of using composition and framing to overcome the environmental challenges.

For the most part, *Klondike Trappers* was lit with natural and practical light sources, but Moffat also needed an efficient light kit for the master interviews with the trappers throughout the show. So she asked for each unit to have a Fiilex K301 Lighting Kit, which is a three-lamp LED kit. “These lamps are very weather proof and run off battery power,” she says. “It was a good option given the locations we were in, and how we were travelling there.”

The master interviews were filmed in the trappers’ rustic cabins, and it was there that Moffat could bring creativity to the lighting. “I referred to a Rembrandt painting called ‘Old Man with Beard.’ It’s a very simple yet beautifully painted portrait of an old man with a beard. The painting is very soft in light, very perfect in how the light falls around the man’s face and off into the shadow, creating a natural vignette in the room. You can imagine how that relates to the trappers and the way they look,” she says. “I actually showed the group the painting and said, ‘This is how we’re going to make these guys look in their cabins.’ It became part of the production bible.”

At night and during lower light hours, the team used other sources such as fire, flashlights or headlamp lights to see the action. “I had the crew use those lights in the shot as practical sources of light to help illuminate the activity instead of trying to gain up the camera, which would introduce noise into the camera,” Moffat explains. “So the teams would flip to the low-light scene file, which was designed to bring up dark areas and shadows. And then put those practical lights in the



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shot – put headlamps on while subjects were talking to each other, or put a fire in the shot, or headlights from skidoos, or get the subjects to shine a flashlight around. We never let anyone go outside without some sort of practical light. Simple, logical ideas that made a big difference for the cameras we were shooting the reality action on.”

Sometimes the team would also use Fiilex LED lights as a fake moonlight source. “I told them, ‘If you have to, add fill from behind the camera at any given time, put a battery on one of those lights and hold it up high, just illuminate a little bit of the forest as a bit of spill to fake moonlight,’” she says.

The crew also had secondary cameras as back-up cameras, but also to shoot beauty shots, some low-light shots and

*Above:* Moffat with trapper Cor Guimond. *Left:* The crew’s daily challenges included dealing with the nuisances that shooting in extreme cold posed to the equipment.

night-time astrophotography. The secondary cameras were Sony A7s, with a Metabones adapter for Canon EF mount lenses. “The reason we went with the A7s is that it has a very high ISO range with a low grain structure; it’s a very sensitive camera and performs well in low light,” Moffat says. “We also used a few GoPros mounted on skidoos, and were lucky if they didn’t freeze. For the hero shots, we used a Sony FS700 to get the high speeds done, along with the A7s on sliders. Some localized aerials were achieved with Phantom drones, though main aerials were done with myself and the V14 Cineflex system with operator John Trapman and pilot Scott DeWindt from Fireweed Helicopters.”

However, no amount of planning could completely prevent the nuisances that shooting in extreme cold posed to the equipment. For one thing, operating the cameras became challenging with all the layers of clothing the team wore. Then frost would also build up inside the viewfinder. “The only way to keep clearing it was to scrape it off with your fingernail,” Moffat says. “Cameras would freeze, cables would snap in seconds of exposure, lenses would collect snow and frost, basically everything was frozen almost all of the time.”

The team also had to deal with the physical challenges of shooting in that environment – some of the crew members developed frost bite and Moffat suffered snow blindness, a burning of the cornea caused by UV rays reflected off ice and snow. Protective eyewear was difficult to use because it would freeze and frost over and get in the way of looking in the viewfinder. Moffat says, “Most of the time we were all operating in 3 to 5 feet of snow. Driving skidoos for hours or days at a time to locations was also part of the challenge. Each crew member drove their own skidoo, towing a skiff with up to 600 lbs of gear, food and gas.”

Hypothermia was the biggest threat, however, according to Moffat. “It was essential to try and not work up a sweat under 20 lbs of clothing and outerwear because as soon as you stopped moving, despite the layers you wore, the moisture turned cold and could cause some of the clothing to freeze up as well, and that was a recipe for hypothermia. It was a true exercise of mind over matter, and a fine balance of personal survival,” she says.

“Dealing with extreme temperatures, making the equipment function, and getting your shots while maintaining your core temperature and keeping your head on your shoulders was an exercise in extreme focus,” she says. “We had safety guides with us, but no matter how much safety is in place, you’re out there and anything can happen.”

Moffat also gives credit to producer David Freeman for having her back on the show. “Knowing you can trust your producer anytime is essential, but on a show like this it made all the difference knowing I wasn’t alone out there,” she says. 🍷

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