MONROE FIRE, HEAT-DAMAGED ATV

FACILITATED LEARNING ANALYSIS

Payette National Forest • August 2014

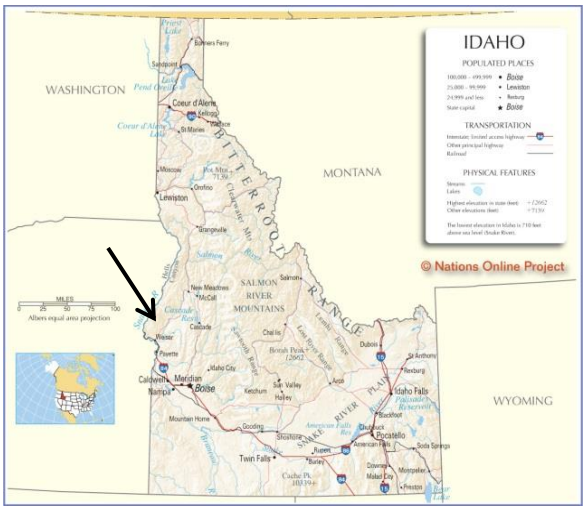
"I looked up the hill, saw smoke and thought – Oh #%&$!"

SUMMARY

On August 28, 2014, the tire of an ATV caught fire while parked on the edge of a dozer constructed fireline on the Monroe Fire, near Weiser, Idaho. After controlling the ATV fire, the operator sustained second-degree burns to several fingers on his left hand while attempting to move the still smoldering ATV.

SETTING

The 265-acre Monroe fire occurred in Western Idaho north of the city of Weiser. Fuel types are mostly grass and mixed brush. The fire occurred on private ground and federal fire resources responded as part of mutual aid agreements with the local fire protection districts and county.



NARRATIVE

It's 1430 on August 28th, 2014, when Heavy Equipment Boss (HEQB) Sam and Dozer Operator Gabe arrive on scene of the Monroe Fire. They are on detail from separate units in a different region. Both have spent time fighting fire in Idaho previously, but this is their first fire together.

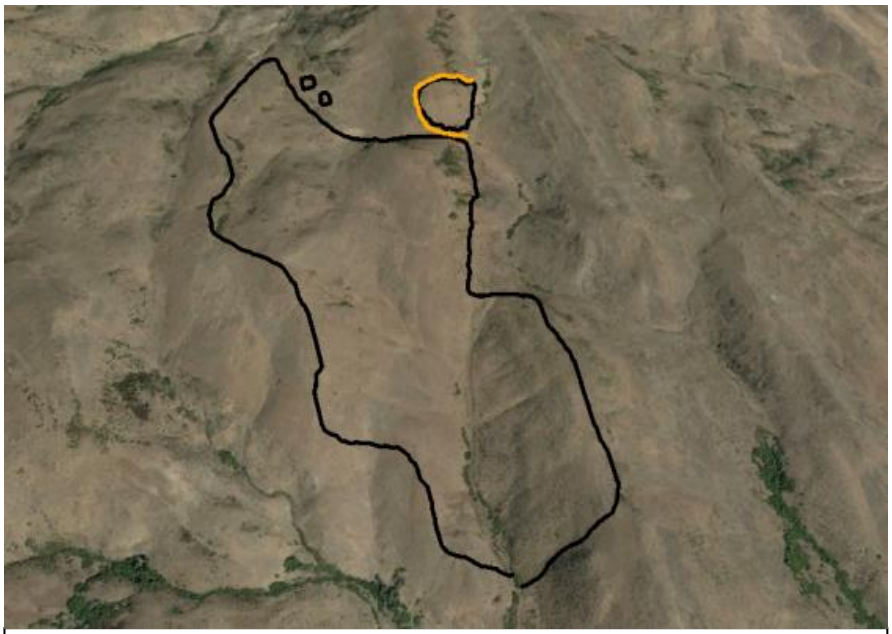


Figure 1: Monroe Fire perimeter (black line) with constructed dozer line around spot fire (orange).

Much of the activity on the Monroe fire has dissipated due to the efforts of several engines and air resources. The Incident Commander (IC) directs the dozer crew to create a containment line around a six-acre spot near the head of the fire that is not actively expanding but still smoldering and is one of the last critical pieces of the fire left to be contained. As Sam and Gabe arrive and unload the dozer and an ATV, they encounter a nervous landowner who urges them to "unload the @#$%^&* dozer quickly to keep the fire from spreading."

Gabe begins constructing dozer line up the gradually steepening hill on the north side of the spot while Sam directs construction and performs swamping duties from an ATV. Not far from where they started, the dozer encounters a steep pitch and cannot continue with uphill line construction. Sam directs the dozer to swing around and back up the pitch to the top of the hill through the black and to tie back into the line using downhill construction techniques.

Photo 1: Viewing the spot fire from the southeast. The incident occurred near the upper right portion of the burned area.

Sam's home unit doesn't use ATV's and while he is trained and qualified for their use, he is not accustomed to riding ATV's in steep terrain. He cautiously attempts to climb the hill on the ATV but quickly recognizes that the pitch is too steep for his comfort level and decides not to continue. After slowly backing down the hill, he parks the ATV at a quartering uphill angle with the parking brake on and the handlebars positioned as if they were conducting a right hand turn. This places three of the ATV's tires on the dozer line and the front left tire on a "2 x 2 foot patch" of unburned grass and brush that is located on the fire-side of the dozer line.

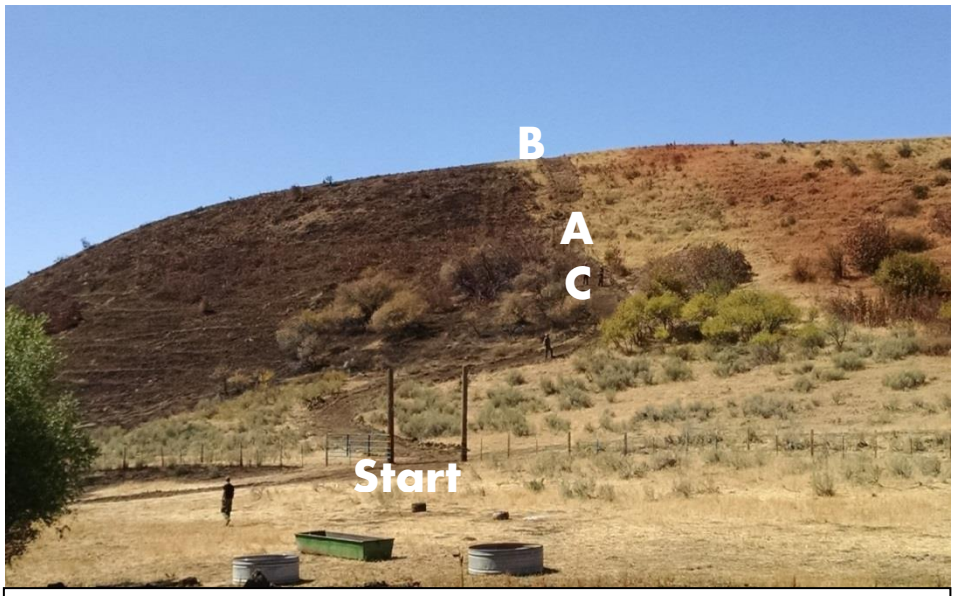


Photo 2: Dozer-line starts at gate. Dozer decides to stop uphill construction at Point A. The Dozer Operator turns around, backs up the hill to Point B, and continues constructing line back down hill to connect with line at Point A. It is here at Point A that the HEQB decides that this pitch is also too steep to continue on ATV and backs down and parks ATV at Point C.

With the line now complete from the start to the top of the hill, Sam leaves the ATV and travels on foot to direct dozer line construction which continues counter-clockwise around the spot. After completing line construction around ¾ of the spot they tie into engine wet-line along the east side completing containment of the spot (see Figure 1).

With their mission complete, the dozer crew heads north back towards their starting point at the base of the hill where the ATV has been parked for 30-45 minutes.

Photo 3: Representative fuels along dozer line where front left tire was parked. Appears mostly light grass but look closer and there are some larger woody fuels that might hold heat a little longer.

Glancing uphill, Sam notices smoke coming from where he parked the ATV. As he gets a better look, he sees black smoke coming from the front end of the ATV. He runs back uphill. In less than a minute he is back at the ATV and discovers the front left tire has caught fire and is still slowly burning. Sam successfully controls the fire by dumping drinking water from his pack on the tire but not before the flames and heat melt the front left tire and plastic fender above it (See Cover Photo on pg. 1). He decides to move the still smoldering ATV into the dozer line to minimize the chances of further ignition. The rubber handlebar grips and metal parking brake handle are located directly above the melted fender and show no visual signs of heat. When Sam grabs the parking brake with his ungloved left hand, he realizes the handle is hot, and has to let go quickly. Releasing the parking brake requires several attempts but once released, the ATV is moved into the dozer line and the remaining heat is extinguished by an arriving engine.

Photo 4: Shows approximate location of Left-Front (LF) ATV tire along with Right–Front (RF), Right-Rear (RR) and Left-Rear (LR) tires. Area of previously unburned fuels which ignited after the HEQB parked it with 3 of the 4 tires on the dozer line is indicated in dashed circle.

After moving the ATV, Sam notices that his left hand is tender from touching the hot parking brake. EMT's from the local fire departments assess and treat the burn with burn cream and gauze, but neither Sam nor the EMT's believe that the wounds require additional care. After returning the ATV to the truck and notifying the IC of the ATV condition and minor burn, Sam returns to work and directs line construction around other parts of the fire for the remainder of the shift.

The next morning, August 29th, HEQB Sam wakes to find that his fingers feel sore and have blistered. After consulting co-workers and supervisors, he is sent to the local hospital for further evaluation. The doctor diagnoses the injuries as second degree burns and provides further treatment before releasing Sam to full duty the same day.

Photo 5: The HEQB's hand several days after the incident.

LESSONS LEARNED BY PARTICIPANTS

- **Is this tool necessary?** "It's always worth evaluating whether the use of the ATV is even necessary. Next time, I'll ask myself: Do I really need an ATV/UTV to accomplish this mission or is it easier and faster to just grab a tool and walk?"

- **Stay within your comfort zone!** When used within the limitations of terrain and the operator's skill and experience, the use of ATV's can be a great asset for wildland fire operations. The HEQB parked the ATV because the terrain's steepness exceeded his comfort level. This was a great call on his part. Another firefighter commented: "I think I might have continued on up that hill but I ride ATV's in this kind of country a lot more than most folks." The HEQB had not spent much time riding ATV's in this type of terrain. He didn't let the landowner's anxiety, peer pressure, or his desire to accomplish the task quickly push him beyond his comfort level.

Facilitated Learning Analysis Team

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