

North Divide ATV Incident

Facilitated Learning Analysis



Minimal damage to the rear tool rack caused by the ATV incident.

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1. Summary

The North Divide ATV Facilitative Learning Analysis (FLA) was requested by the Forest Supervisor of the Pike and San Isabel National Forests Cimarron and Comanche National Grasslands (PSICC) in response to a firefighter receiving a broken collar bone after an ATV incident.

The goal of this FLA is to improve awareness of ATV operations, decrease knowledge gaps¹ at all organizational levels, create learning opportunities and reduce or eliminate incidents for employees involved with ATV operations.

After review of this incident that included the leadership, qualifications, and local policies the FLA Team concluded that those directly involved in the North Divide ATV Incident performed within the Leaders' Intent and scope of duty.

The FLA Team did not find any reckless behaviors or actions. Names have been changed to protect the privacy of interviewees.

¹ Knowledge Gap is referred in the FLA Guide as the work as imagined (by leadership) and work as performed (by the people on the ground).

“I felt the impact, and knew something more was going on, I couldn’t stand and felt dizzy.”

Sam

2. Introduction

At approximately 1400 hours on February 9, 2016, while performing hazardous fuels pile checks on the North Divide Pile burn an ATV operator was abruptly thrown from his ATV resulting in a broken collar bone and minor damage to the ATV.

“I felt the impact, and knew something more was going on, I couldn’t stand and felt dizzy” Sam explained afterwards.

The injury resulted in Sam receiving a broken left collar bone.

Following this incident, Sam was transported to the hospital by George in their crew rig. After receiving medical care at the hospital Sam was released that day. At the time of this report Sam is recuperating at home and is expected to recover without additional complications.

This FLA tells the story derived from interviews with those involved with this ATV incident to capture what the ATV operators were experiencing as the various events unfolded.

Sidebars and quotes are used throughout the FLA to help provoke a deeper thought process and learning opportunities. These are not indicators of how the incident occurred.

3. The Story

The North Divide Fuels project started approximately January 20, 2016 when several large mechanical piles were ignited by firefighters at two locations.

These large mechanical piles have continued to burn since the ignition date with the firefighters retuning to monitor them regularly.

Sam and George were familiar with the road conditions leading to the piles. They operated the same ATV’s throughout the project. On the morning of February 9, 2016 Sam and George conducted another check of the piles.

New Snow

The area saw two snow storms prior to this date and received new snow. It was a bluebird day with sunny skies, Sam and George had a discussion about road conditions and access to the site. Concerned that they may get the truck stuck in the new snow they decided to use ATV’s for today’s pile check.

Stuck in a Drift

They arrived at the first trailhead shortly after 1000 a.m. and unloaded the ATV’s. They rode their ATV’s in on the road to check the piles. This road had not been plowed. As they approached the piles the road conditions deteriorated to the point that the ATV’s became stuck in a deep drift. With only

**Current ATV Safety Institute (ASI)
approved ATV trainings have limited
application to ATV field use.**

***“We need a more vigorous ATV
training for our operators that offers
and focuses on a breadth of field
training exercises.”***

Forest Service ASI Instructor

minimal work they were able to free both ATV's from the drift. At this point they chose to return to the trailhead. Once back at the trailhead they loaded the ATV's and drove to a second trailhead to check piles at the second location.

Road conditions included: mud, slush, snow, snow berms, ruts and packed ice.

Sam and George arrived at the second trailhead around 1200 p.m. and unloaded the ATV's. They chose to skip lunch and do a quick check of the piles and eat lunch once they returned to the trailhead.

As they drove their ATV's down the single lane, minimally plowed road to check the piles they experienced a wide variety of road conditions. These include: mud, slush, snow, two-foot tall snow berms, packed ice and ruts. There was dapple light with a mixture of shady and sunny spots along the road. They were able to complete the pile check at this location without incident.

Be cognizant of "risk normalization".

Do routine tasks have hazards that may be underestimated?

"Just puttzin' along"

"It was a good day to be puttzin' along checking piles" George explained. On the return trip to the trailhead George mentioned to Sam about a machine pile that he had noticed earlier in the year on a side road. They decided that it would be worth driving down the side road to identify the specific location of this pile. Just a short distance down the side road they located the machine pile.

They turned around and started heading towards the trailhead. Sam was leading the way back to the trailhead. When Sam approached the junction with the main road he pulled off to the side. George passed and returned to the trailhead.



Picture of snow berm at incident site after significant road melting had occurred, which is not representative during the incident.

"I have minimal ATV experience"

Sam was now following George the last half mile back to the trailhead. During the last half mile of the trip, along a shady spot, Sam encountered a change in road conditions causing the ATV to make contact with the two-foot tall snow berm.

During this contact with the snow berm the right front end of the ATV reacted violently throwing Sam into the snow embankment. As a result the ATV was facing the opposite direction on the road laying on its side.

Sam would later state "I have minimal ATV experience...especially in snow and icy conditions".²

² Sam had no ATV riding experience prior to becoming ASI certified in 2013. Since then, his only experience has been minimal riding while at work. Sam estimated he'd done approximately 30 hours of riding in the last year, and not much of that in packed snow and icy conditions.

Sam had a look on his face.

Around 2:00 p.m. George had arrived back at the trailhead. Once back at the trailhead George noticed that Sam was not immediately behind him. George remained at the trailhead for approximately 1-2 minutes and decided to go back and look for Sam.

George started down the main road following a POV. A short distance from the trailhead George noticed Sam standing next to his ATV which was on its side. As George and the private citizen from the POV approached "I saw a look on Sam's face", George would state. This elapsed time was approximately 7-10 minutes since George had last seen Sam.

How do you declare a medical emergency?
This link provides lessons learned from
crews who have declared medical
emergencies:

[**9 Line Medical Lessons**](#)

Declaration of a medical emergency?

George asked Sam if he should contact Dispatch with a medical emergency. Sam replied just get me to the hospital I think I have a broken arm. George did a quick assessment of Sam and saw that there was no blood, he was alert and moving. At this point Sam said I can ride the ATV if you can get it upright and running. The private citizen helped George upright the ATV and it started immediately.

Level head, calmness, and efficient.

Both George and Sam slowly traveled the short distance to the trailhead. Once at the trailhead Sam started making phone calls informing the local unit about the incident and the plans for George to transport him to the hospital. During this time George loaded and secured the ATV's. Once the ATV's were loaded and secured they traveled to the hospital.

Sam would recall, that "George remained level headed, calm and efficient" after the ATV incident and during the transport to the hospital.

4. Lessons Learned

- ❖ In addition to the minimum ASI required training, develop an ATV training plan that incorporates additional training modules that prepare operators for riding in realistic seasonal conditions.
- ❖ Organize an ATV instructor working group to discuss ATV accidents, near misses, and training to identify best practices and promote a learning organization.
- ❖ "Don't underestimate non dangerous conditions. It doesn't take much to get injured on an ATV", Sam.
- ❖ Conduct your pre-ride check and always carry your safety gear (survival kit, first aid, communications, food, water) regardless of the distance you plan to ride from your vehicle.
- ❖ Clear communication between team members is critical.

5. ATV Description

- ❖ The ATV was a 2007 Yamaha Grizzly 660 in good operational condition.
- ❖ Tires were an aggressive off road tread style commonly seen on ATV's and showed little wear. The ATV was in four wheel drive at the time of the incident and was not loaded any additional equipment.
- ❖ Maintenance records were adequate and up to date. All mechanical functions of the ATV were operational.
- ❖ The front suspension was on the stiffest setting and the rear was on the lightest setting. However, when the suspension was cycled it did not seem excessively stiff for the operations that day.

6. Personal Protective Equipment

“It should be added that all the rules and regulations which can be created, safety devices that can be attached to machines, and all the warning signs that can be posted are useless unless responsible individuals drop the veil of seeming unconcerned and become interested in the task of eliminating and reducing accidents.”

Mr. S.M. Lauderdale, Safety Engineer, Department of Agriculture and CCC 1938

- ❖ The injured ATV rider was wearing all Personal Protective Equipment (PPE), including a full face visor helmet, required for ATV operations.
- ❖ Even though PPE is designed to prevent injury, it does not guarantee the total prevention of an injury.

7. FLA Team

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