Rapid Lesson Sharing

Event Type: Structure Burns Beside Secured Prescribed Fire

Date: Oct. 28, 2016

Location: Valles Caldera National Preserve; New Mexico

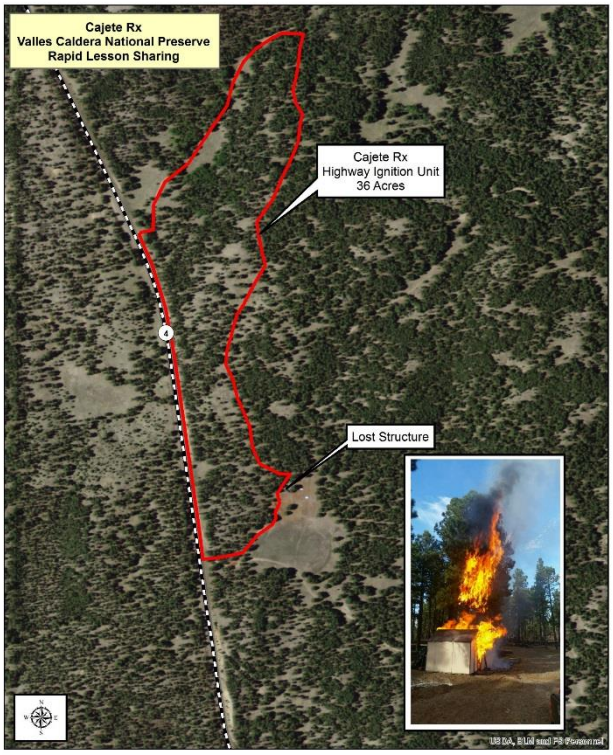
NARRATIVE

Background

On Oct. 24, fire management staff from Bandelier National Monument conducted a prescribed fire treatment at Valles Caldera National Preserve. Approximately 36 acres were treated within the Highway Ignition Unit as part of the Cajete Prescribed Fire Project.

This prescribed fire project was a "moderate complexity" prescribed fire and required a Type 2 Burn Boss. The ignition unit was predominately composed of ponderosa pine with light to moderate surface fuel loadings. Overall fire behavior during ignition operations consisted of active surface fire with occasional isolated and group torching events in the understory.

Observed fire behavior and weather conditions were within the defined prescribed fire prescription and treatment objectives were accomplished.



Values at Risk

Values at Risk were identified within the Burn Plan and made known to all burn personnel at the morning operational briefing and an IAP was disseminated to all project personnel. Values at Risk included New Mexico Highway 4 and two agency-owned structures located adjacent to the burn unit's southeast corner. These structures consisted of a small cabin and small shed with an adjacent pile of cut firewood.

Handline was constructed around the structures in the southeast corner of the ignition unit and a point source protection strategy was implemented to protect the structures during firing operations. A folding tank was also installed near the structures to support holding resources as ignition crew members burned adjacent to these structures.

Smoke warning signs were placed along Highway 4 to mitigate potential smoke impacts to motorists.

Resources on Scene

Resources on scene during implementation included: 1- Type 2 Burn Boss, 1- Type 2 Burn Boss Trainee, 1- Firing Boss, 1- Holding Boss (TFLD qualified), 3- Type 6 Engines (2- Firefighters per engine), 1- UTV with pump, 1- Fire Effects Monitor, 1- Law Enforcement Officer (Public Safety Specialist), and 3- Ignition Crew Members.

Hand ignition operations occurred between 1030 and 1530 hours. No holding issues or spot fires occurred.

Firefighters burn out around the small shed and woodpile on Oct 24.

Mop-Up

Post ignition operations, all resources remained on scene until approximately 1800 hours. Mop-up activities occurred along Highway 4 and the handline in the burn unit's southeast corner. These mop-up activities focused on mitigating potential diurnal smoke impacts to Highway 4 and securing the handline to protect the structures.

By 1800 hours, observed fire behavior was "smoldering." All containment lines were secure and resources were released. One Type 6 Engine remained on scene until sunset.

Next Day, Second Ignition Cancelled – Highway Ignition Unit Remains in Patrol Status

The next day, the burn organization returned to the ignition unit to implement an additional treatment within the Cajete Prescribed Fire Project Area. Based on unfavorable wind conditions, however, this burn was postponed. All resources continued to hold and patrol the Highway Ignition Unit. At the end of shift, the Highway Ignition Unit was placed into patrol status.

During the next two days, personnel patrolled the unit multiple times. No significant fire behavior or holding concerns were detected during these daily patrols.

Four Days After the Highway Ignition Unit was Ignited

Small Shed on Fire

On the morning of October 28, four days after the Highway Ignition Unit had been ignited, another patrol was conducted. All lines were secure. At approximately 1545 hours that day, a National Park Service contractor reported that the woodpile adjacent to the small shed near the southeast corner of the Highway Ignition Unit was on fire.

Two Type 6 Engines were dispatched from Bandelier National Monument. At 1613 hours the contractor reported that the shed adjacent to the woodpile was now also on fire. While resources were enroute, the Fire Management Officer contacted the program manager responsible for the structures to obtain information on what items were being stored in the buildings. The FMO learned that the small shed contained various hand tools, fencing equipment, and fiberglass signs. There were no hazardous materials known to be inside the structure.

The first engine arrived on scene at 1615 hours. The second engine arrived at 1700 hours. When the first engine arrived on scene, the shed was completely engulfed in flames. The firefighters

On right – where the woodpile and small shed burned. On left – the structure that the firefighters were able to save.

It was later discovered that a five-gallon propane cylinder had been stored in the shed and exploded during the structure fire.

The remnants of the burned woodpile. The theory is a smoldering root may have burned under the burn unit's handline and ignited the woodpile, which was located beside a shed that also burned.

recognized that they did not have the proper equipment or qualifications to engage in the structure fire.

Protection efforts were implemented on the adjacent building and the shed was allowed to burn.

Next, a "hissing" sound was heard, followed by a loud "boom." It was later discovered that a five-gallon propane cylinder had been stored in the shed and exploded during the structure fire.

Cause of Fire

National Park Service law enforcement personnel were notified of the structure fire and responded to the scene the next day to investigate the potential cause of the fire and collect witness statements from the engine crews who responded.

While an official fire cause could not be determined, it appears that a smoldering root may have burned under the handline and ignited the woodpile adjacent to the shed.

LESSONS

On November 3, an After Action Review was held to discuss the prescribed fire project and the structure fire that occurred four days post the prescribed fire ignition. The intent of the AAR was to identify and share potential lessons learned.

Those who attended the AAR included: the Burn Boss, the Burn Boss Trainee, the Firing Boss, the FMO, an Engine Crewmember, an LEO who conducted the post structure fire investigation, and the Intermountain Region Deputy Regional FMO.

A Type 2 Burn Boss from out of the area was requested to assist with facilitating the AAR and to prepare a Rapid Lesson Sharing (RLS) document.

- ❖ The Burn Plan was current and complied with the Interagency Prescribed Fire Planning and Procedures Guide.
- ❖ Project staffing was adequate.
    - ✓ Values at Risk were identified and protection measures were in place.
    - ✓ Handline was sufficient and dug down to mineral soil.

- Hold and patrol operations were based on current and expected fire behavior and weather conditions.
    - ✓ "Expect the unexpected. Fire will find a way to spread where we do not want it to spread."
- Agency owned structures were not at/maintained to the defensible space guidelines recommended under the FireWise initiative.
    - ✓ "Did we ever consider moving the woodpile before we burned the unit?"
    - ✓ "Did we verify what was in the shed before we burned?"
    - ✓ Consider taking pre-burn photos of Values at Risk in case additional documentation is needed later.

The remnants of the five-gallon propane cylinder (circled in red) that had been stored inside the shed and exploded when the shed caught fire.

- Consider developing mop-up specifications (timeframe/depth) when securing around Values at Risk.
- If the fire's cause is in doubt, order a qualified fire investigator and take appropriate measures to protect the scene/potential point of origin.

This RLS was submitted by:

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