



WILDLAND FIRE ORIGIN & CAUSE DETERMINATION REPORT

Fire Date (YYYY-MM-DD)

2011-08-02

Fire Number

K7-0239

Fire Centre / Zone

Kamloops Fire Center / Lillooet Fire Zone

Geographic Location

s.22

Legal Description of Point of Origin

Sec 20, TP17, Rge 27 PID=012864935

Tenure Holder / Legal / Responsible Owner

Name

s.22

Address

s.22

Latitude

50 27.564

Longitude

121 41.284

Fire Ignition Time (24 hr)

Unknown, however
based on the Initial Fire
Report from Doug
ALLEN, the fire started
sometime between
18:00 - 18:29

Fire Report Time (24 hr)

18:29 by Doug ALLEN

Fire Attack Time (24 hr)

18:51 by H71

I/C Responding

Lloyd LEY

Origin & Cause Investigator

L HUDEMA &
H NOREN

Date (YYY-MM-DD)

L HUDEMA and H NOREN
arrived on 2011/08/03

Time (24 hr)

L HUDEMA and H
NOREN arrived at 15:25
@ Lillooet Fire Zone, and
16:55 at fire K7-0239

Description of Weather at Time of Ignition

No precipitation, clear, hot & dry.

Temperature (C°)

27.4 @16:00

27.7 @ 17:00

25.4 @18:00

RH %

22 @ 16:00

23 @ 17:00

27 @ 18:00

Wind Speed & Direction

14 km N @16:00

13 km N @ 17:00

10 km N @ 18:00

Representative Weather Station Name

Splintum (Temperature, RH, wind speed and direction readings were taken from the Splintum Weather Station at 16:00, 17:00 and 18:00 on 2011/08/02 for weather estimates at time of ignition. Splintum is the most representative weather station based on its proximity to fire. Splintum Weather Station is 424m above sea level , and is located approximately 13 km S SE of fire K70239.

Weather Station Number

N/A

Time (24 hr)

Temperature (C°)

RH %

Wind Speed (kmph)

Wind Direction (deg.)

Surname

Given Name(s)

**Statement
Taken (Y/N)**

Address

**Contact
Number**

Y

Y

Y

Y

s.22

s.22

s.22

INVESTIGATOR NAME: L HUDEMA
H NOREN TITLE: Forest Officer / Official
Forest Officer / Official DATE:



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| s.22 | Y | s.22 | |
|--|--------------------------|------------|-------------------------|
| Other Agencies Involved | Statement Taken (Y/N) | Address | Contact Number |
| Wildfire Management (Gerry TRUDEAU, Lloyd LEY, Mike BENSON) | Y | | 256-1403 |
| BC Hydrro (Clay RHODENIZER) | Y | | 256-1849 or 256-4063 |
| Fountain View Academy s.22 s.22 s.22 | Y s.22 s.22 | Highway 12 | 256-5445 |

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LIGHTNING

There was no lightning in the immediate area of origin, as per the historical lightning map attached. (Note that the lightning detection system accuracy is 500m with an 80-90% detection rate.) The map dates back one month prior to the fire (July 3, 2011 - August 3, 2011) There was no evidence of lightning cause found during investigation. (Fulgurites, lightning scars, splintered wood) HUDEMA conducted a 360 degree walk around each tree adjacent the Area of Origin and found no evidence to support a lightning caused fire.

CAMPFIRE

There was no evidence of campfire use in the area of origin or adjacent the area of origin. s.22 stated that they did not have a campfire the day the fire started.

SMOKER

s.22 stated that neither of them smoke, nor did they have any guests the day the fire started that smoke. For a cigarette to cause a fire the temperature must be 26 degrees or greater, and the RH must be 22% or less, in this case both the RH and the temperature were in the range for this to occur. There was no evidence found to suggest a smoker caused fire.

DEBRIS BURNING

There was no evidence found to suggest an open burning caused fire. There was no evidence of burning debris piles or recent use of a burn barrel. HUDEMA inspected a burn barrel located on the property however there was no evidence of recent use.

RAILROAD

There is no railroad at the area of origin or adjacent the area of origin, therefore there was no evidence found to support a railroad caused fire.

CHILDREN

There was no evidence found to support a children caused fire. There are no children that live at s.22 or at the s.22 residence. s.22 stated that there were no children visiting the day of the fire.

INCENDIARY

There is no evidence to suggest an incendiary caused fire. There was no evidence found to suggest that there were any accelerants used.

EQUIPMENT USE

The Area of origin is immediately adjacent to s.22 driveway, therefore equipment caused fire is suspect. There is a possibility that either carbon or direct heat transfer from the exhaust could have caused this fire, however there was no physical evidence found to support this. Carbon fires generally occur when temperatures. Both the RH and temperature was in the range for a carbon caused fire. s.22 the only equipment used the day of the fire was a pick up truck, a dirt bike s.22 and a tractor s.22. All three pieces of equipment were inspected by HUDEMA, and NOREN. The truck and the tractor are newer models and in good repair, however the dirt bike is not in good repair with holes in the exhaust. The dirt bike and tractor was last driven past the area of origin sometime between 11:45 and 13:30. The pick up truck was last driven past the area of origin at approximately 17:10. The maximum flight distance for a carbon fire is 13.7 meters. The area of origin is within 13.7 m from s.22 driveway, as it is immediately adjacent the driveway.

HYDRO-LINE

There is a hydro line uphill from the area of origin, however there is no evidence to support a hydro caused fire. Macro and Micro indicators show that the fire started adjacent s.22 driveway away from hydro poles. HUDEMA also inspected hydro poles using binoculars and found no evidence of fire. There is also no evidence of any down hydro line s.22 suggests that the fire started as a result of a sparking transformer that occurred at the hydro pole adjacent the s.22 house that burned down, however photographs taken by witnesses show that there was no transformer on that hydro pole, and that the sparking observed, happened well into the fire. This pole's location was approximately 236 yards (measured using a Range Finder) from the area of origin.

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MISCELLANEOUS / OTHER

There is no evidence to support any other / miscellaneous cause. There is no evidence that fireworks, firearms, spontaneous heating, electric fencing, magnifying objects, blasting, flares were present. There is a welding machine located on the property however there is no evidence to support recent use (cob webs present). The welding machine is located in the pole barn.

ARSON

There is no evidence found to support arson. No suspects were discovered, nor was there any motive suspected. s.22 said that they are not aware of anyone that would want to retaliate against them or their neighbours. No hot sets, accelerant, or other devices found.

DETERMINED CAUSE (explain)

Not determined, however an Equipment caused fire is suspected..

| Complete applicable boxes | | | | | | | | |
|---------------------------|---|-----|-----------|---|-----|------------|---|-----|
| Suspected | | | Confirmed | | | Accidental | | |
| Y | N | N/A | Y | N | N/A | Y | N | N/A |

Comments

The fire is suspected to be an "Equipment Caused Fire" as that was the only source of ignition that was available in the area of origin the day the fire started. The fire is considered accidental as there is no evidence to support otherwise. Due to the hot, dry conditions, the low RH and high temperature, there is a high likelihood that fire would result from this type of ignition source (carbon, or direct heat transfer).

LEGISLATION CONTRAVENTIONS IDENTIFIED

None

INVESTIGATOR NAME: L HUDEMA

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Photos taken

Y N

Site Plan Map

Y N

Exhibits

Y N

INVESTIGATION CONCLUDED

Date (YYYY-MM-DD)

2011/09/15

Time (24 hr)

19:00

SUMMARY OF FINDINGS**AREA OF ORIGIN DESCRIPTION**

Long grass located on the north side of s.22 driveway. (See Sketch). Macro indicators outside the area of origin on the fence posts, and shrubs (angle of char, damage differential, and protection) provide evidence that the fire started in the area of origin. The irrigation pipe located in the field above the area of origin has indicators (staining, protection) that provides additional evidence of fire direction.

POINT OF ORIGIN DESCRIPTION

Long grass located on the north side of s.22 driveway. (See Sketch). Point of origin is where there is evidence of a low intensity burn, and where all micro indicators surrounding the point of origin provide evidence that the fire started there. Evidence of backing, lateral and advancing indicators were found adjacent the point of origin. Micro indicators (protection on grass stems) were observed to determine point of origin. Point of origin is located near the point of the "V" shape on the end of the fire, which is immediately adjacent the s.22 driveway.

IGNITING OBJECT

Suspect that carbon or direct heat transfer was the igniting object. In the area of origin the grass was ignited first, followed by the following items outside the area of origin (grass, sage brush, fence posts, hydro poles, hay, equipment, structures - both a barn and a house etc.)

FORM OF HEAT OF IGNITION

Suspect that either carbon was the source of direct heat contact, or that direct heat transfer occurred directly from the equipment itself that caused the ignition of the fire.

MATERIAL FIRST IGNITED

Ground and surface fuels - grass and weeds.

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ACT OR OMISSION

s.22 stated that three pieces of equipment were driven on the driveway the day of the fire, which included a pick up tractor, and a dirt bike.

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Based on the field examination, evidence gathered and a complete review of the facts, I offer the following:

With all fire causes ruled out besides equipment, it is determined by the investigators that the fire was caused by equipment use in the area, which produced an ignition source to the long grass on the north side of the driveway, which in turn caused the fire. A pickup truck, tractor and dirt bike (Honda Trail 110) were all in the area of origin, just hours before the fire. With a damaged muffler, the dirt bike is the most likely source, however this has not been determined. There was no other ignition source available in the area of origin the day of the fire. The temperature and RH the day of the fire was within the range required for an equipment caused fire.

The person responsible for the fire has not been determined as there are no witnesses that can state which piece of equipment caused the fire.

Note: The Lillooet and Lytton Fire Departments did not respond to this fire as it is outside of their jurisdictions. Fountain View Academy however has their own fire truck therefore volunteered their services.

| Investigator Name | Title | Signature | Date (YYYY-MM-DD) |
|-------------------|---------------------------|-----------|-------------------|
| L HUDEMA | Forest Officer / Official | | |
| H NOREN | Forest Officer / Official | | |

INVESTIGATOR NAME: L HUDEMA
H NOREN TITLE: Forest Officer / Official
Forest Officer / Official DATE: