
 USDA Forest Service	<b>Wildland Fire Origin and Cause Supplemental Incident Report</b> (Reference FSH 5309.11, Chapter 20)				Incident Number	CO-SJF-000168									
					Incident Date	5/27/2012									
<b>LOCATION</b>															
Fire Name	Dispatch #	Account Code	Region	Forest	District	State	County								
Needleton	O-1	P2GV1G	02	San Juan	Columbine	CO	La Plata								
Origin Location: geographical landmarks, highways, roads, trails, etc.			Township	Range	Section	¼ Sec	Base Meridian								
Alongside DSNR tracks 1 mile south of Needleton water tank			39N	8W	25		NM, CO								
				Latitude (D - M' - S")		Longitude (D - M' - S")									
				37	37	12N	107	42 00W							
<b>JURISDICTION</b>															
USFS Only	Unified: Identify Other Agency		Lead Origin & Cause Investigator			Cost > 40K	Injuries								
X			(b) (6), (b) (7)			?	0								
<b>EVENT SEQUENCE</b>															
Estimated Time of Ignition				Time Fire Reported				Time Origin Protected				Time Origin Released			
Mo.	Day	Year	HHMM	Mo.	Day	Year	HHMM	Mo.	Day	Year	HHMM	Mo.	Day	Year	HHMM
05	27	2012	1120	05	27	2012	1159	05	28	2012	0800	05	28	2012	1100
Who	(b) (6), (b) (7)(C)			Who	DSNR			Who	(b) (6), (b) (7)			Who	(b) (6), (b) (7)(C)		
<b>FIRE BEHAVIOR</b>															
Estimated Acres	Fuel Type @ Origin Material First Ignited			Weather Observer (On Scene)		Date	Time	Temp	RH	Wind Dir	Wind Speed				
6.0	grass			IA crew		5/27	1745	51	14%	SE	5-15				
Slope %	Aspect: N E S W	Elevation		Weather Station		Date	Time	Temp	RH	Wind Dir	Wind Speed				
30-45	ENE	8,215'		Big Bear Park		5/27	1155	43	18%	WSW	29				
<b>CAUSE DETERMINATION CODE: (I) = INCLUDED, (E) = EXCLUDED, (P) = PARTIALLY-INCLUDED/EXCLUDED (EXPLAIN IN NARRATIVE)</b>															
E	Lightning	(Detection Method)													
No lightning reported in area															
E	Equipment Use	(Exhaust, Brake Shoe, Mechanical, Friction, Aircraft, Vehicle Fire, Other)													
No equipment other than train in this area															
E	Smoking	(Tobacco, Other)													
No evidence of people previously using this area; access is very limited															
E	Campfire	(Cooking, Warming, Ceremonial, Other)													
No evidence of campfire															
E	Debris Burning	(Land, Slash, Refuse, Other)													
No evidence															
I	Railroad	(Ignition Activities Associated with Railroad Companies)													
15' from rail road tracks in fuel type conducive for fire start from exhaust cinder															
E	Incendiary	(Ignition Component / Material First Ignited)													
No evidence present indicating a incendiary device															
E	Children	(Ignition Activities Associated with Children; 12- years and younger)													
No evidence of children; very limited access to this area															
E	Miscellaneous	(Blasting, Structure, Fireworks, Welding, Cutting, Grinding, Pest Control, Power Line, Glass, Target Shooting, Spontaneous Combustion, Other)													
Railroad is only use and access to this area. No track maintenance was being undertaken.															
Cause Determined: State brief reason & explain in the narrative						Cause Undetermined: State brief reason & explain in the narrative									
Fire indicators show fire started approximately 15' from tracks, along an uphill grade on the tracks, in sunny, flat, grassy area adjacent to tracks.															
PREPARED BY	(b) (6), (b) (7)		Date	5/30/2012	Submitted to	(b) (6), (b) (7)(C)		Date	6/8/2012						
ATTACHMENTS - IF INCLUDED	LE Incident Report	<input type="checkbox"/>	Supplemental Reports	<input checked="" type="checkbox"/>	Interviews	<input type="checkbox"/>	Statements	<input type="checkbox"/>							
	Fire Stat Report	<input type="checkbox"/>	Sketches / Diagrams	<input checked="" type="checkbox"/>	Maps	<input type="checkbox"/>	Photographs	<input checked="" type="checkbox"/>	Other	<input checked="" type="checkbox"/>					

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(CODE: S – SUBJECT, W – WITNESS, V – VICTIM, RP – REPORTING PARTY, O – OTHER)							
<b>Name (Last, First, Middle)</b>				Alias	DOB	Race	Gender
(b) (6), (b) (7)							
Address (Home)				Phone (Home)	Hair Color	Eye Color	SSN
				(b) (6), (b) (7)(C)			
Address (Business) (Tax Identification Number if Required)				Phone (Work)	Height	Weight	License / ID
<b>Name (Last, First, Middle)</b>				Alias	DOB	Race	Gender
Address (Home)				Phone (Home)	Hair Color	Eye Color	SSN
Address (Business) (Tax Identification Number if Required)				Phone (Work)	Height	Weight	License / ID
<b>Name (Last, First, Middle)</b>				Alias	DOB	Race	Gender
Address (Home)				Phone (Home)	Hair Color	Eye Color	SSN
Address (Business) (Tax Identification Number if Required)				Phone (Work)	Height	Weight	License / ID
<b>VEHICLE INFORMATION (CODE: D – DAMAGED, E – EVIDENCE, I – IMPOUND, S – SUBJECT W – WITNESS, O – OTHER)</b>							
	License Number	State	VIN	Year	Make	Style	Other Information
	License Number	State	VIN	Year	Make	Style	Other Information
	License Number	State	VIN	Year	Make	Style	Other Information
	License Number	State	VIN	Year	Make	Style	Other Information
<b>EVIDENCE / PROPERTY INFORMATION (CODE: D – DAMAGED, E – EVIDENCE, I – IMPOUND, O – OTHER)</b>							
Code	Description			Disposition	Date	Time	Who
<b>INSURANCE INFORMATION (HOME, AUTO, LIABILITY, OTHER)</b>							
Insurance Company		Policy Number	Insurance Agent		Address		Phone Number
<b>PREPARED BY</b>		<b>DATE</b>		<b>SUBMITTED TO</b>		<b>DATE</b>	
(b) (6), (b) (7)		5/30/12		(b) (6), (b) (7)(C)		6/11/12	

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**SYNOPSIS (DATE, FIRE NAME, ESTIMATED ACRES, LOCATION, JURISDICTION); (ESTIMATED COST, DAMAGE; PROPERTY / RESOURCE); (CAUSE; DETERMINED / UNDETERMINED)**

On May 27, 2012 a wildfire was reported at a location in the San Juan National Forest, approximately 1 mile south of the Needleton water tank along the Durango and Silverton Narrow Gauge Railroad (DSNGRR) tracks, in La Plata County, CO. This fire was named the Needleton Fire and was estimated at approximately 6.0 acres when contained. The estimated cost is unknown. The extent of damage is burned vegetation possibly leading to soil erosion due to steep slopes. The cause of the fire was determined as from an exhaust cinder from steam engine landing on the ground surface in sun dried grasses, approximately 15' from the west side of the tracks.

**DETAILS OF INVESTIGATION: (INITIAL REPORT, INITIAL ATTACK, INITIAL INVESTIGATION, FIRE BEHAVIOR ANALYSIS, STATEMENTS, ORIGIN EXAMINATION, CAUSE DETERMINATION)**

The fire was discovered by (b) (6), (b) (7)(C) and employee of the DSNGRR as he patrolled the track southbound looking for obstacles or fires. When he discovered this fire he called for the DSNGRR fire crew to assist, but they were already working on a fire further south along the tracks. The fire crew had been following the first train (Engine #481) northbound to Silverton of the day when they stopped to extinguish a fire. Therefore, (b) (6), (b) (7) was the first person to pass this Needleton fire since the train had passed by this location at approximately 11:20 AM. (b) (6), (b) (7)(C) discovered the fire at approximately 11:45 AM.

The initial report of this fire was received at Durango Interagency Fire Dispatch at 11:59 5/27/12. The Columbine RD IA Fire Crew was dispatched to the scene, with (b) (6), (b) (7)(C) as the Duty Officer and (b) (6), (b) (7)(C) as the Incident Commander. With the fire cause suspected of being the DSNGRR train engine a Fire Investigator was requested to determine the cause and origin.

The on-site weather taken by the FS IA fire crew at 151 was RH 14%, winds upslope at 5-15 mph, temp. 51 degrees. Weather readings for the Big Bear Park RAWS station, located in Hermosa, are attached.

Due to transportation problems getting to the fire scene on 5/27 the Fire Investigator, (b) (6), (b) (7) reported to the fire on 5/28 at 7:30 AM. The INVF site observations were: fire area aspect ENE with slope of 30 to 45 degrees. The vegetation along the tracks is grass, gambel oak and aspen, with spruce-fir-aspen higher upslope. Two reference points for the investigation were established at the north and south edges of the fire perimeter adjacent to the tracks, approximately 125' apart.

The fire investigator has determined that the fire appears to have started in a flat, dry, grassy area adjacent to the railroads tracks, and spread along fingers of grass growing between rocks, and moved upslope aided by the winds from the south being funneled along the river valley and rail corridor. Due to the slope aspect the area of origin had been sun dried and warmed prior to the train passing this area. By 10:00AM this spot is in full sun, according to observations by the fire investigator. The fire crept upslope in the grass fingers and into an area of young oaks with dry leaf litter beneath. However, the fire remained on the ground surface consuming grass and leaf litter. When the fire reached the spruce-fir it consumed the needle cast and downed branches, but continued to move upslope between the rocks and staying on the ground.

The fire burned some of the heavy dead fuels on the ground, including some old discarded rail ties, but these heavy fuels had been extinguished by the fire crews and helicopter bucket drops with water. Pockets of dead aspen leaves beneath live trees were consumed by fire, but the fire pretty much crept along in the surface fuels.

The fire spread indicators showed the fire progression as upslope due to the NNE winds, steep slopes (30-45 degrees), and the sun dried fine fuels. There was evidence of lateral fire spread through the grasses and leaf litter/needle cast. There was evidence that the fire did back away from the origin area in the dry grasses, and spread into the ditch between the tracks and the origin area. Discarded rail ties in the ditch had ignited but were extinguished before complete consumption.

The Area of Origin is determined to be approximately 15 feet from the edge of the railroad track. This area had been disturbed by suppression activities, including heavy water application. This area is flat, grass cover, and in full sun in the AM to dry the fuels before the first train to Silverton passes by. The continuous grass cover, along with winds pushing upslope from the south, created receptive

conditions for an exhaust ember from the steam engine smokestack to settle on and start burning the grasses. Due to the quick discovery of this fire by DSNRR personnel the fire investigator concludes this fire could have been much more damaging if it had not been promptly extinguished.


Evidence was seen by the fire investigator of previous burns in this area. According to a DSNRR employee (b) (6), (b) (7)(C) at the fire site this area receives periodic prescribed burning by train personnel as it has been previously identified as a fire susceptible area. (b) (6) also said the DSNRR is aware of the high fire potential this season and that they have been putting out frequent fire starts along the tracks since the train began running to Silverton 5/5/12.


Evidence was noted by the (b) (6), (b) (7)(C) of deterioration of the steel rail tracks, particularly of the outer rail at the inside of a curve. This was explained by the (b) (6), (b) (7)(C) to be "mushrooming". Although not determined to be a cause of this fire, it is noted that this deterioration may be an item to be aware of.

**SUMMARY:** (CAUSE DETERMINED / UNDETERMINED) (CAUSES INCLUDED / EXCLUDED OR PARTIALLY - INCLUDED / EXCLUDED) (SUBJECTS KNOWN / UNKNOWN) (OTHER ACTIONS)

The Needleton Fire was contained at six acres. The approximate point of origin was GPS'ed at:  
 N37 degrees 37.766' by W 107 degrees 41.794', elevation 8,215' (accuracy to within 10 feet).  
 The cause is determined to be an exhaust ember, from the steam engine smoke stack, falling and igniting dry grasses approximately 15' from the tracks.

PREPARED BY	DATE	SUBMITTED TO	DATE
(b) (6), (b) (7)(C)	5/30/12	(b) (6), (b) (7)(C)	6/11/12

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Title		Needleton Fire Origin and Cause scene sketch																	
Latitude		37		37		12N		Longitude		107		42		00W		Map Key			
INCLUDE: STAND= SCALE, TITLE, AUTHOR, NORTH ARROW, DATE AND TIME																			
SCALE		NTS		AUTHOR		KIM ROUND		DATE		5/28/12		TIME		11:00					
PREPARED BY				DATE				SUBMITTED TO				DATE							
(b) (6), (b) (7)(C)				5/30/12				(b) (6), (b) (7)(C)				6/11/12							

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PHOTOGRAPHIC LOG					
CASE NUMBER		PHOTOGRAPHER	(b) (6), (b) (7)(C)	DATE	5/28/12
CAMERA	Sony Cybershot		FILM	digital	
No.	DESCRIPTION	REMARKS			
1	Burned pocket of dead leaves under live aspen tree				
2	Flat area of origin and movement upslope between rocks				
3	Looking north along tracks at burn and ditch w/ old RR ties (burned)	(b) (6), (b) (7)(C)			
4	Looking south along tracks at flat areas adjacent to track in full sun				
5	Looking south along track & burn area with burned ties in ditch				
6	Looking south along tracks toward northbound train	Burn area along right side			
7	Track in upper right; live willow (back) shows backing burn on uphill side	Front trunk shows evidence of previous burn			
8	“ “	Different angle of view			
9	Looking down slope toward tracks, showing burn creep in grass	Lots of rock to slow burn			
10	Looking upslope showing advancing indicator flags	Surface burn			
11	“ “ showing movement upslope between rocks				
12	“ “ adjacency to ditch by tracks				
13	Train approaching from south with open meadow and Animas River	Open area has higher winds that funnel north along tracks			
14	Approaching train from south, and fire helicopter in meadow				
15	Approaching train exhibiting exhaust from steam engine				
16	Looking upslope at fire creep thru grass into oak surface fuels in sun				
17	Rock outcrop above gambel oaks and spruce-fir forest above				
18	Surface fuels burned between rocks				
19	“ “				
20	Advancing indicators shown by grass stem char, fallen stems, & staining on rocks				
21	Approximate point of origin with consumed grass heavy water treatment				
22	Same				
23	Context showing point of origin approximately 15' from side of track	Origin = White flag just below rock in center of picture			
24	Close up of origin point				
25	Outside edge of track closest to origin showing mushrooming				
26	Different angle of mushrooming				
27	Different angle of mushrooming				
28					
29					
30					
31					
32					