RICH FIRE
Plumas National Forest/Region 5
July 29, 2008
Case#: 8384201
Report of Investigation: S.A. DRAFT

This report contains sensitive and personal data. Information of a personal nature is protected from disclosure by the Privacy Act if such a disclosure would constitute an unwarranted invasion of personal privacy.

Disclosure of other than personal information is subject to the provisions of the Freedom of Information Act.

This report shall be maintained in accordance with FSM 6270.

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DEC 03 2009
CLAIMS MANAGEMENT
APPLICABLE LAWS

Title 18 United States Code, Section 1855, *Causing timber and vegetation to burn.*

Title 18 United States Code, Section 1361, *whoever wilfully injures or commits any depredation against any property of the United States....*

Title 18 USC, section 1856, *whoever, having kindled or caused to be kindled a fire in or near any forest....*

36 CFR 261.5(c) *Causing timber, trees, slash, brush or grass to burn except as authorized by permit.*

36 CFR 261.5 (d) *Leaving fire without completely extinguishing it.*

36 CFR 261.52 (k) *violating any of the following California State Forest and Fire Laws........*
  - 4421 *Burning lands of another*

California Health and Safety Code, Section 13000, *Responsibility for control of fire.*

California Health and Safety code, Section 13007, *Liability for damage from starting a fire.*

California Health and Safety Code, Section 13009, *Fire suppression costs collectable.*
On July 29, 2008 at approximately 3:15 pm a wildfire occurred adjacent to the Union Pacific railroad on National Forest System land. This origin is located on the Plumas National Forest, Mt. Hough District, In Plumas County, CA.
The total size is approximately 6,586 acres and an approximate suppression cost of $8,300,000 dollars as of August 6, 2008.
Introduction

The first report of the Rich Fire was approximately 3:15 July 29, 2008, via cell phone, to the Plumas National Forest Dispatcher. This was from a family traveling westbound down Highway 70 from Quincy. The fire quickly spread up hill and jumped Highway 70 becoming a campaign fire. That evening Special Agent [REDACTED] was notified to respond as the Lead Investigator and left Sonora that night arriving on the fire scene the next morning, July 30, 2008. Special Agent [REDACTED] was assigned to assist with the investigation and also arrived on July 30.

Details of Investigation

Initial Attack

Forest Service fire Engine 25, responded from Gansner Bar fire station arriving at approximately 15:23. They were the first on scene. As they arrived one of the crewmen, in the back seat, snapped a photo of the fire with his cell phone, through the windshield of the fire truck.

They observed the main fire to be above the tracks and approximately 5 acres in size. The fire was moving upslope as well as diagonally across the slope to the north as it moved with the wind. The south flank and bottom of the fire had little or less intense fire activity.

They shortly noticed that the fire was jumping the highway to the north of them and began suppression action on these areas.

The suppression crews were no longer able to control the spots and were assigned to evacuate and protect structures, in the path of the fire, on Rush Creek road.

The responding Patrol/Fire Investigator, [REDACTED], was also diverted to evacuate homes in the path of the fire.

Initial Investigation

After the evacuations, [REDACTED] met with Law Enforcement Officer [REDACTED] at the Virginia bridge. [REDACTED] had found Union Pacific Railroad welders, [REDACTED] and [REDACTED] and interviewed them. They stated they had been welding (exhibit 62) in the area approximately one hour prior to the fire being reported. [REDACTED] reviewed the report and asked [REDACTED] if he used the tent (exhibits 61, 62) to shield the vegetation from sparks. [REDACTED] stated it would have taken too long to set up so they did not use it. They had very little time to do the project. (exhibits, 74, 77 [REDACTED] Interview and [REDACTED] Statement, respectively)

[REDACTED] and [REDACTED] talked over whether they could get to the origin safely and who would inspect the train at Portola. (An eastbound train had passed through the origin area just prior to the report of the fire and was stopped and waiting in Portola).

U.S. Forest Service Officer, [REDACTED] is a trained wildfire investigator and also specializes in railroad related incidents. [REDACTED] responded to Portola, CA to inspect the train that had passed by the origin just prior to the fire being reported. [REDACTED] inspected the components located in the exhaust. He also inspected the train brakes and journal bearings. He did not find anything abnormal.
The origin area was on a steep slope which was across the Feather River from Highway 70. Access to the area was via the railroad grade with entry points to the grade at Virgilia on the east and Richbar on the west. 

and protected the origin by guarding the access points at Virgilia and Richbar. They also stationed a guard on Highway 70 at mile marker 20.5 across from the origin, where they had a clear view of the origin area. Mile marker 20.5 has a large dirt turnout where installed a large lighting system that illuminated the origin area for night observation. (exhibits 76, 77, Statements)

**Origin Examination**

**July 30, 2008**

arrived in the area and met Officer along side the Union Pacific Railroad tracks east of the Richbar crossing.

and walked in approximately 1.5 miles to the south flank of the fire which was also the upwind side of the fire. At this point they noticed an area where the fire formed 3 separate “V” patterns on the cut bank. The welding project mentioned to by the track crew, was also located here.

Before walking the upper portion of the perimeter, and checked the bottom of the perimeter (west flank) on the railroad grade. They observed the weld on the north end and a cut and splice on the south end. (two pieces of metal drilled and bolted over the joint between the two rails to join them together)

There were also drill turnings lying in the ties at both ends of the work area. A 30 foot section of rail was lying to the west of the west rail with fresh, (unrustrad) cut ends. The south end of this rail had a recent cut approximately 18 inches from the end. This cut was made with a cutting torch. ( has experience using cutting torches, oxygen/acetelyene and arc welding and recognized the cutting process when observed). The north end had two cross sectional pieces of rail lying next to it. One piece is approximately one half inch thick and the other a few thousandths of an inch thick. They also observed flake of metal which may have dropped off of the train wheels or brake.

and continued by walking an uphill perimeter of the burn. Since the fire was several hundred acres at the time, they walked a large area on the hillside to read indicators and establish a general fire direction. (Exhibit 14).

and walked up hill (east) on the south flank noting that the fire worked its way up the bank at a lower intensity and then became a well established run continuing up slope and also backing against the wind to the south. The backing indicators show less intense burning. Here the fire remained mostly on the ground and did not have the flame height or intensity to remove canopy as in the run area adjacent on the north. (exhibits 10,11,12,13) There was a transition area between the uphill run and the backing area to the south which was a slight ridge that ran east and west up the slope they were climbing. They traversed the slope to the north confirming that the fire continued to run up slope. (indicators were angle of chare and freezing). (exhibits 14,15,16) After traversing for several feet could see indicators showing the fire was running with the wind at an angle up slope as well as across the slope, (to the north east). (exhibits 14,15,16). At this point they walked down hill watching indicators that confirmed he fire was still running in the same direction. Continuing down hill they worked into a very rocky area where the fuel continuity was broken. Here the fire could only move by spotting or trailing in fuel between the rocks. (exhibits 17). The spotting was consistent with the wind direction, which was still at an angle across slope from the south. and continued down slope back to the railroad bed approximately 70 feet north of their starting point.

and began the examination of a burn area below the railroad grade. They dropped down the steep bank arriving at the top of this burn which was approximately one quarter acre in size.

Due to the extreme slope, they began the perimeter search at the top and worked around the south flank. Since the bottom third of the burn was very steep, walked a transect through the middle of the fire checking
indicators. He reached a rock outcropping on the north flank and worked his way up slope, east to the top of the burn.

This perimeter search showed that the fire was moving up hill with a few runs that swept up through the taller oak and cedar trees. There was an area at the upper third of the south flank that showed less intense burning and backing. [REDACTED] observed that there were power lines passing over the lower end of the burn. During inspection of the conductors [REDACTED] observed an anomaly on the center conductor. (exhibit #50). He looked closer with binoculars and discovered that three strands of the conductor were severed and bent back approximately 3 to 5 inches. The tips of these strands are dark and the strands, uncovered by the removed strands, are shinier than the surface strands. [REDACTED] could not locate damage on the adjacent conductors or on any other spans of the lines. He inspected the insulators on the poles at each end of this span and was unable to see any damage or anomalies. (This anomaly will be further evaluated).

[REDACTED] and [REDACTED] observed they would need ropes to safely access the lower portion of the burn, meanwhile they continued with the evaluation of the specific origin on the upper fire along the tracks.

[REDACTED] and [REDACTED] returned to the hillside, above the northern most “V” pattern. They worked their way across the slope to the south, looking at indicators, (staining on rocks and damage differential on vegetation), which showed that the fire moved up slope and across slope from the south to the north.

They followed the indicators to the south flank of the fire above the southern most “V” pattern, on the south end of the burn along the railroad tracks. On the south flank [REDACTED] zig-zagged down slope picking up more indicators showing the fire, which created the southern most “V” pattern, traveled up hill.

[REDACTED] examined this “V” pattern on the bank locating micro indicators, (staining on pebbles, damage differential on small organic material), which guided him to a “Specific Origin” approximately 2 feet wide by 6 feet long. For identification purposes he labeled this “V” pattern, “Site 1” and later, the point of origin found within: “Point Of Origin #1”. (exhibit #38)

[REDACTED] and [REDACTED] inspected this area using two grid lanes, each approximately 1 foot wide. (exhibit #39,40). They visually inspected these lanes with a magnifying glass and then with a magnet. The magnet picked up ferrous material which looked like short threads or fine wire.

Inspection of indicators in the two “V” patterns, on the railroad bed, north of “Site 1”, showed the fire moved up the cut bank toward the rest of the burn on the hillside.

The two “V” patterns, one just north of Site #1 and the other on the northern most end of the burn along the tracks, were identified as “Site 2” and “Site 3”, respectively. The fourth burn was a narrow stringer on the cut bank. Inspection of the indicators in this stringer, showed the fire moved down hill, from the main burn, to the toe of the bank. This portion of the fire continued moving north along the toe of the bank and then burned back up the cut bank into the large rock outcropping, several feet north of the point at which it came down the bank. From the indicators [REDACTED] concluded this was not an origin area and did not give this stringer a label.

Inspection of microindicators in “Site 2” reduced the area to a specific origin measuring approximately 12 inches. This area was small enough not to require a formal grid lane. (exhibit 41,42,43). [REDACTED] searched the area visually with a magnifying glass and then ran a magnet over it locating a short thread or fine wire object which stuck to the magnet.

[REDACTED] and [REDACTED] established a power pole (#33) as a reference point and measured bearings and distances from this pole to the 3 points of origin as well as the weld and the splice on the track.
collected the two thin cross sectional slices of the railroad track sitting next to the removed section of railroad track. (exhibit 17).

**July 31, 2008 Examination of area below railroad bed.**

At approximately 12:30,

then continued examination of the burn, following indicators down hill that lead him to an area at the bottom of the burn, on the steep bank which had a “V” pattern. Indicators leading to this location were sooting on small rocks and degree of destruction on small vegetative matter. This “V” pattern was named “Site #4”. He continued along the bottom area of the burn and located 3 other “V” patterns. From south to north these other 3 “V” patterns were named “Site 5, Site 6 and Site 7” respectively.

stopped his examination of the area to record the scene with photographs prior to leaving for the evening.

**August 1, 2008**

and arrived at the burn approximately 11:00 am and resumed inspection of the origins. examined Site #4, on the bottom of the burn, below the railroad, on its southern most side. Using the magnifying glass and the naked eye he followed micro indicators, (charring and damage differential), and located a burned piece of cedar bark in the point of origin. The bark was approximately one half inch wide by one and one half inches long. There is a partially burned cedar at the top of the burn 50 feet uphill.

also examined two other spots lower down on this burn. (Site #5 and Site #6). They were both clumps of grass. He used the magnet on these and visually inspected them however he was unable to successfully sift them since he could not dig in the grass with out potentially damaging or moving any evidence. later dug out the entire clumps and stored them in a sealed bag to dry and analyze at a later date. On initial examination, he was able to locate several burned leaves, from a deciduous bush, among the grass stems. A plant with similar leaves was adjacent to the clumps of grass and this bush had burned.

examined the fourth spot, “V” pattern, which is the furthest spot to the north on the bottom of the burn. (Site #7). He inspected it visually with a magnifying glass and magnet.

**August 2, 2008**

and returned to the scene at approximately 11:45 am and began a close examination of Site #1 at the south end of the burn on the railroad bed.

made passes over the area with a magnet and located a flake and granule of unknown material which he collected. He also observed more fire direction indicators that pointed toward the south end of the Site #1, which became point of origin #1.

Leaving Site #1, moved to the area on the slope below the railroad bed, and located several clips that hold the track iron to the concrete tie. He found these clips scattered among the large boulder scree. The clips had scratches on them as if they were thrown from the railroad bed to the rock scree below. They also had fresh wear marks and grease accumulation which is consistent with being recently removed from the track, most likely during the track replacement and weld. photographed and collected the clips. (exhibit _photos Sony: 520-532).
At approximately 14:30 he resumed the inspection of Site #1.

Using the magnet, recovered small metallic spheres in this area which upon further examination we found to be hollow.

The Point of Origin, of Site #1, was covered with groupings of rocks with leaves and other forest litter inserted between the rocks. (exhibit 39, 41 photos: Nikon #49, Sony #539) Upon passing the magnet over the litter he was able to pick up a few of the spheres. Assuming the spheres may have sifted down between the rocks and leaves; he dug them up, sifted them and passed the magnet over the sifting. With this method he retrieved many more spheres than just passing the magnet over the top of the rocks and leaves. He dug deeper into the loose soil to discover how deep the spheres were distributed and found that after approximately the 1 inch depth mark, they disappeared.

**August 4, 2008**

wanted to determine if the spheres could have an association with the burn or were common to the region. To do this he examined four “sample plots”, in Site #1, in addition to the Point of Origin #1. Sample plot #1 was in the burn 7 feet 4 inches above the Point of Origin which produced approximately 2 spheres. Sample plot #2 was outside the burn to the south, 17 feet from sample plot #1 at the same elevation. Sample plot #2 produced no spheres. Sample plot #3 was approximately 30 feet south of the Point of Origin outside the burn at the same elevation and produced no spheres. Sample plot #4 was in the burn 2 foot 10 inches north of the Point of Origin and produces approximately 6 spheres which were smaller in diameter than those found in the Point of Origin.

**August 5, 2008**

continued the origin examination on the railroad cut bank, moving on to Sites #2 and #3. He performed the same search procedure with sifting and using the magnet, as he did on Site #1.

Site #2 is encircled by several large rocks. Searching the area with the magnet divided the space into three significant areas. The top, (east), portion of the space produced the most spheres. The lower left, (north west), portion produced fewer spheres. The lower right or south west portion produced no spheres at all. (see sketch exhibit 9). The spheres in origin #2 are smaller in diameter than those found in origin #1. At this site the spheres disappeared from the loose soil after approximately ½ inch in depth.

also sampled a plot, 22 inches above the Point of Origin in Site #2. This plot produced no spheres. Officer and noticed a crust on the soil surface here that was consistent with moisture soaking and drying on the soil. They surmised this may be the retardant that the welders sprayed on the ground to prevent sparks from starting a fire. They also noted that the vegetative material in the sprayed area was burned.

performed the same operation on the Point of Origin in Site #3 and found no spheres at the point of origin. He found 2 very small spheres several inches to the south east of the point of origin and one under the lip of a rock. examined a sample plot approximately 15 inches above origin #3 and found 3 spheres which were also small diameter.

None of the samples in Point of Origin #2 or #3 produced as many spheres as the sample taken in Point of Origin #1.
decided to learn if there is a relationship between the spheres and the point of origin.

Site #1 was large enough to take many sample plots, within the burn, to provide data for a relationship analysis.

plotted out 18 more sample plots totaling 21 plots with the original sample plots included. The plot were arranged in 4 horizontal rows of 5 plots, (the top row had 6 plots), and the lowest row was on the same level as the point of origin. The top row was the same level as Sample Plot #1. The plots were spaced approximately 24 inches laterally and vertically (terrain allowing) from Point of Origin #1 (exhibits 41, 92). He performed the same sampling process as before, sifting and passing a magnet over the siftings. He also repeated this in the original sample plots that were within the point of origin.

The sampling results show the concentration of beads is in the burn and in the lower two feet of the burn. The largest numbers were in the vicinity of the point of origin in Site #1 (exhibit 92).

After leaving the origin area for the day, met with Pacific Gas and Electric “Trouble Man”, and had him examine the photos of the damage to the conductor. His analysis was that it appeared to be a gun shot which would have the velocity to sever the strands and bend them backwards as they appeared in the photo. He also explained that something would need to have acted as a “ground” to carry the energy to the earth and cause a fire, or something would have to span from this conductor to one of the others to cause an arc which could have dropped molten metal to the earth causing a fire. If this had happened there would be corresponding damage to a second conductor or be long enough to reach from this conductor to the ground. During an examination from the ground, did not locate damage on the other conductors or items long enough to reach the ground.

Pacific Gas and Electric was contacted by the Assistant U.S. Attorney’s Office, Sacramento, requesting a SCADA report for interruptions in this line. The report did not reveal any interruptions, which would indicate there were no shorts in the line (exhibit 82).

A closer analysis of the conductors and damage is required and will be arranged with PG&E to include or eliminate the power line as a possible cause.

August 6 & 7, 2008

requested any reports of the Rich Fire from the 911 lines at the County Sheriff’s Department, California Highway Patrol and the Plumas National Forest Dispatch Office. (exhibit 83)

This resulted in confirming that whose name is listed on the U.S. Forest Service “WildCAD Incident Card”, was the first party to report the fire. (exhibit 84).

Interviews
Special Agent, interviewed and crew members of U.S. Forest Service Engine 25.

Mr. was traveling eastbound on Highway 70 in his motor home. Mr. was alerted to a train on the tracks by the squeal of its brakes. He noted that the train was located near a tunnel on the railroad. He continued east and observed a fire on the hillside. pulled over in a turnout across from the fire and attempted to call 911 on his cell phone but had no cell service. He later determined, by his cell phone log, that he had attempted the call at 15:10 hours.

and later drove the highway. video taped the drive while narrated what he recalled seeing during his initial drive up the canyon (exhibits 68).
interviewed the crew of Engine 25, the first engine to arrive on scene after the initial report. Using photographs of the scene as they may have seen it upon their arrival, had them draw on the photographs to illustrate what they remembered observing (exhibits 69-73).

Two of the crew members remembered a spot fire below the railroad tracks. Three of the crew which include the Engineer and Captain, who usually have the most fire experience, did not see fire below the railroad tracks. All members noted the intensity of the fire on the ridge. The wind direction was up slope and up canyon. the engine captain, emphasized that the fire was wind driven.

a crew member in the rear seat of the engine stated he took two photos of the initial view of the fire with his cell phone camera. These photos do not show fire below the rail road bed (exhibit 70).

August 8, 2008

Special Agent and interviewed the original reporting party, at her home in Oroville, California.

and her 14 year old daughter, stated the fire was below the railroad grade. drew a sketch indicating the location. viewed several photos (provided by investigators) and identified which photos may have been where she saw the fire (exhibit 74).

Weather conditions
The fire started in a portion of the canyon that narrows down and creates winds of higher velocity than wider areas of the canyon. A fire behavior analyst measured wind speed approximately ½ mile below the point of origin at 4.3 mile per hour. Approximately 200 yards below the point of origin (south) he measured the wind speed at 14.3 miles per hour. ½ mile above the point of origin (north) the wind speed was 5.5 miles per hour.

During the course of the investigation at the origin area, the investigators noticed a stiff breeze that was up canyon (south to north) shifting to an angle up slope and up canyon. (south west to north east). This wind direction was illustrated by the direction the indicator flags were blowing in several photographs (exhibits 37, 40).

November 18, 2008

Metallurgical examination of metal spheres located at origin.

An initial analysis of the metal spheres was conducted by a metallurgist. The spheres were identified as steel rather than iron, due to the elemental content which included iron, carbon, manganese and chromium. The metallurgist also pointed out that metal spheres can be produced by welding or cutting of metal. Welding produces solid spheres while cutting typically produces spheres with hollow centers. The spheres found in the origin had hollow centers (exhibit 55).

September 15, 2009

Examination of power line adjacent to origin.

On September 15, 2009 and an electrical engineer, contracting with the U.S. Forest Service, examined the electrical conductors below the rail road bed which spanned across the burn area below the railroad bed. Also present were a Pacific Gas and Electric (PG&E) investigator and an electrical engineer contracting with PG&E.

PG&E technicians removed the conductor with the broken strands as well as an adjacent conductor and lowered
them toward the ground where investigators could view them.

Upon inspection it was evident that a semicircular deformation on the upper side of the conductor was a shape and size consistent with a bullet strike (exhibits 66, 67).

The event produced minimal arcing upon separation of the strands.

A section of the damaged conductor approximately 10 feet long, which included the damaged portion, was removed by PG&E technicians and collected by [redacted].

Investigators examined the other two adjacent conductors for marks indicating a short between conductors but found no evidence of this.

Review of origin area on rail road bed.

During the electrical conductor examination [redacted] viewed the present condition of the origin area, specifically the work area on the rail road tracks.

[redacted] noticed the south end of the replaced track was now welded. During the fire this end was connected with plates bolted to the two rails. The old removed section of rail was no longer lying beside the work area and was not located.
EXHIBITS

ORIGIN AND CAUSE
1. Origin and Cause Report

MAPS
2. Area map
3. Location map
4. Site map

SKETCHES
5. Photograph location points, Burn above railroad.
6. Photograph location points, Burn below railroad.
7. Photograph location points, Railroad track work area.
8. Origin #1 sketch
9. Origin #2 sketch
10. Origin #3 sketch.

PHOTOGRAPH LOG
11. Nikon and Sony photos by [redacted]

PHOTOGRAPHS
13. Route of perimeter search
14. Rail splice and debris on track near origin. (photo #54, Nikon)
15. Chemical weld at north end of replaced rail and debris. (photo #55, Nikon)
16. Old track, slices of track and bolts. (Photos #50 and #59, Nikon)
17. Torch cut on old track. (photo #50, Nikon and #534, Sony)
18. Torch cut on old track with Origin #1 in background. (photo #534, Sony)
19. Approximately 50 feet up slope from tracks looking north into burn. (photo #3, Nikon)
20. From same point looking uphill, east, into burn. (Photo #2, Nikon)
21. Above the 50 foot mark looking across slope, north into the burn. (photo #8, Nikon)
22. Transition zone on south flank. (photo #7, Nikon)
23. Looking down toward Origins #1,2,3 and transition zone from run to lateral/backing. (photo #13, Nikon)
24. Trees on south flank on edge of run and transition zone. (Photo #10, Nikon)
25. Display of how fire moved up gully from origin areas. (photo #13, Nikon)
26. Run above trail/traverse which is continuation of run in Photo #13. (photo #14)
27. Another run north of Photo #14 above the traverse route. (photo #17, Nikon)
28. Angle of char and foliage freeze on cedar tree. (photo #18, Nikon)
29. Spots and die-outs on west flank. (photo #20)
30. Approximately 40 feet above tracks north of origin. Scrub oak showing advancing indicators. (photo #21, Nikon)
31. Burn area that came from above and moved down to railroad grade. (photo #27)
32. White ash on down hill side of trunks of small oaks. (photo #35, Nikon)
33. Black on uphill side of small oaks. (photo #36, Nikon)
34. Angle of char indicator on scrub oak, approximately 20 feet above tracks.
   (photo #40, Nikon)
35. Angle of char and cupping on stobs. (photo #42, Nikon)
36. Site #1. (photo #43, Nikon)
37. Site #1 after placing indicator flags. (photo #46, Nikon)
38. Rock accumulation and litter between rocks at Point of Origin #1.
39. Grid lane for Point of Origin #1. (photo #48, Nikon)
40. Grid lane for Point of Origin #1. (photo #49, Nikon)
41. Flags placed at sample plots in Site #1 (photo #565, Sony)
42. Site #2 from railroad bed. (photo #549, Sony)
43. Point of Origin #2. (photo #548, Sony)
44. Crusty soil in Site #2. (photo #550, Sony)
45. Overall of Site #3. (photo #561, Sony)
46. Specific Origin #3. (photo #557, Sony)
47. Point of Origin #3. (photo #558, Sony)
48. Angle of char indicator, Site #5. (photo #89, Nikon)
49. Angle of char and grass head indicators Site #6. (photo #88, Nikon)
50. Looking east at site #5. (photo #93, Nikon)
51. Leaves in grass clump Site #5. (photo #96, Nikon)
52. Beads removed from Point of Origin #1 with magnet. (photo #536, Sony)
53. Close-up of beads in #536. (photo #537, Sony)
54. Sphere found in origin. (Electron microscope photograph sample 6002 A).
55. Electron microscope photo of broken sphere showing hollow interior.
56. Elemental components of sphere in exhibit #53.
57. Sphere found in origin. (Electron microscope photograph sample 5002 A)
58. elemental components of sphere 5002 A found in origin.
59. Electron microscope photo of unknown material (sample 4002 C) found in origin and elemental component graph.
60. Elemental components of filings sample taken from old track rail.
61. Comparison of elemental components of material found in origin with track elemental components.
62. Demonstration of track grinding by Union Pacific Railroad
63. Demonstration of track welding process by Union Pacific Railroad.
64. Damage to electrical conductor.
65. Orientation of damage portion of conductor to fire.
66. damage to conductor during inspection on September 15, 2009.
67. damage to conductor during inspection.
INTERVIEWS/ STATEMENTS
68. [Redacted] interview and video.
69. [Redacted] (two statements)
70. 
71. 
72. 
73. 
74. [Redacted]
75. [Redacted]
76. 
77. 
78. [Redacted] narrative

WEATHER
79. Lightning map
80. RAWS stations

FIRE BEHAVIOR
81. Fire Behavior Report and wind readings by analyst.

SUPPORTING DOCUMENTS
82. PG&E SCADA report.
83. 911 recordings and Logs
84. U.S. Forest Service “WildCAD” Incident Card.
85. Incident Report, (FS 5300-1)
86. Demonstration of Welding and Grinding
87. Welding and Grinding Precautionary Terms and Burn permit for U.P. Railroad.
88. Incident Status Summary (ICS-209)
89. Rich and Belden Fires Incident Action Plan
90. Thermal Gel description
91. Periodic Table of Elements and components of steel
92. Sample plot sketch and sample count for Site #1.

WITNESSES SUMMARY
93. Government witnesses
94. Union Pacific Railroad witnesses
95. Pacific Gas and Electric witnesses
Wildland Fire Investigation
Origin & Cause

LOCATION
USDA Forest Service

Fire Name
Rich Fire

Dispatch #
2008-784

Account Code
P5ED7R

Region
05

Forest
11

District

State
CA

County
Plumas

Origin Location: geographical landmarks, highways, roads, trails, etc.
Alongside the Union Pacific railroad near railroad mile marker 266.44. It is also east, across the river, from mile marker 20.8 on highway 70.

JURISDICTION

USFS Only
X

Unified: Identify Other Agency

Lead Origin & Cause Investigator

Cost > 40K

Injuries

8+ mil.

EVENT SEQUENCE

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
07  29  2008  1500  07  29  2008  1504  07  29  2008  08  05  2008  1700

FIRE BEHAVIOR

Estimated Acres
6,500

Fuel Type @ Origin

Material First Ignited

Weather Observer

On Scene

Date

Time

Temp

RH

Wind Dir

Wind Speed

Slope %

Aspect: N E W S

Elevation

Weather Station

Date

Time

Temp

RH

Wind Dir

Wind Speed

CAUSE DETERMINATION

Code: (I) = Included, (E) = Excluded, (P) = Partially-Included/Excluded (Explain in Narrative)

E  (Lightning)  (Detection Method)
No indicators of lightning strikes, no recent lightning observed, no lightning recorded two weeks prior to ignition on lightning map.

E  (Equipment Use)  (Exhaust, Brake Shoe, Mechanical, Friction, Aircraft, Vehicle Fire, Other)
No evidence of other equipment accessing the area which is somewhat difficult to do along railroad grade. There were also railroad employees working in the area to observe other equipment in the area.

E  (Smoking)  (Tobacco, Other)
Although smoking materials were discovered along the railroad bed, no smoking materials were found at any of the suspected points of origin.

E  (Campfire)  (Cooking, Warming, Ceremonial, Other)
No evidence of campfire nor is it a likely location for one.

E  (Debris Burning)  (Land, Slash, Refuse, Other)
No evidence of debris burning.

I  (Railroad)  (Ignition Activities Associated with Railroad Companies)
Evidence of railroad maintenance was located at the origin and cast off material from this work, which is normally hot, was found at the points of origin.

E  (Incendary)  (Ignition Component / Material First Ignited)
No evidence of intentional ignition. Not a likely location for incendiary due to long access (two or four mile walk or crossing river and climbing up and down steep cliffs. Origin is also open and easy to view from well traveled highway.

E  (Children)  (Ignition Activities Associated with Children; 12- years and younger)
Too remote for children and hard to access.

Miscellaneous  (Blasting, Structure, Fireworks, Weld, Cut, Grind, Pest Control, Logging, Power Line, Glass, Target Shooting, Spontaneous Combustion, Other)
The Miscellaneous components were considered and no evidence was located except for welding, cutting, grinding which are associated with a railroad operation and fall under the railroad cause. Power lines including a flaw in a conductor were inspected and eliminated as a cause.

Cause Determined: State brief reason & explain in the narrative
Cause Undetermined: State brief reason & explain in the narrative

Prepared by   08-06-2008   Submitted to   Date

Attachments

If Included

LE Incident Report

Fire Stat Report

Supplemental Reports

Sketches / Diagrams

Maps

Interviews

Photographs

Statements

Other

Wildland Fire Investigation
Page 1 of 10  FSH-5309.11_23.41_04/2005
**Wildland Fire Investigation Identification**

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**Address (Home)**
- Quincy, CA

**Union Pacific Railroad**

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**Address (Home)**
- Quincy, CA

**Address (Business)**
- Chico, CA 95928

**Union Pacific Railroad**

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**Address (Home)**
- Chico, CA 95928

**Address (Business)**
- Simi Valley, CA 93063

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**EVIDENCE / PROPERTY INFORMATION**

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**INSURANCE INFORMATION**

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**Prepared By**
- S.A

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**LEI - Incident Number**: 08-05-8384201

**Incident Date**: 7-29-2008
Wildland Fire Investigation
Narrative

SYNOPSIS: (Date, Fire Name, Estimated Acres, Location, Jurisdiction) (Estimated Cost, Damage; Property / Resource) (Cause; Determined / Undetermined)

On July 29, 2008 at approximately 3:15 pm a wildfire occurred adjacent to the Union Pacific railroad on National Forest System land. This origin is located on the Plumas National Forest, Mt. Hough District, In Plumas County, CA.
The total as of August 6, 2008, is approximately 6,586 acres and approximately $8,300,000 dollars in suppression costs.

DETAILS OF INVESTIGATION: (Initial Report, Initial Attack, Initial Investigation, Fire Behavior Analysis, Statements, Origin Examination, Cause Determination)

Initial Report
The first report of the Rich Fire was via telephone to the Plumas National Forest Dispatcher. This was from a family traveling westbound down Highway 70 from Quincy.

Initial Attack
Forest Service fire engine 25, responded from Gansner Bar fire station arriving at approximately 15:23, They were the first on scene.
They observed the fire to be above the tracks and approximately 5 acres in size. The fire was moving upslope as well as diagonally across the slope to the north as it moved with the wind. The south flank and bottom of the fire had little or less intense fire activity.
They shortly noticed that the fire was jumping the highway to the north of them and began suppression action on these areas.

They were no longer able to control the spots and were assigned to evacuate and protect structures, in the path of the fire, on Rush Creek road.
The responding Patrol/Fire Investigator, [redacted], was also diverted to evacuate homes in the path of the fire.

Initial Investigation
After the evacuations, [redacted] met with Law Enforcement Officer, [redacted] at the Virgilia bridge. [redacted] had found Union Pacific Railroad welders, [redacted] and [redacted], and interviewed them. They stated they had been welding in the area approximately one hour prior to the fire being reported. [redacted] reviewed the report and asked [redacted] if he used the tent to shield the vegetation from sparks. [redacted] stated it would have taken too long to set up so they did not use it. They had very little time to do the project.

[redacted] and [redacted] talked over whether they could get to the origin safely and who would inspect the train at Portola. (An eastbound train had passed through the origin area just prior to the report of the fire and was stopped and waiting in Portola).

U.S. Forest Service Officer, [redacted] is a trained wildfire investigator and also specializes in railroad related incidents. [redacted] responded to Portola, CA to inspect the train that had passed by the origin just prior to the fire being reported. [redacted] inspected the components located in the exhaust. He also inspected the train brakes and journal bearings. He did not find anything abnormal.
The origin area was on a steep slope which was across the Feather River from Highway 70. Access to the area was via the railroad grade with entry points to the grade at Virgilia on the east and Richbar on the west. [Name] and [Name] protected the origin by guarding the access points at Virgilia and Richbar. They also stationed a guard on Highway 70 at mile marker 20.5 across from the origin, where they had a clear view of the origin area. Mile marker 20.5 has a large dirt turnout where [Name] installed a large lighting system that illuminated the origin area for night observation.

**Origin Examination**

**July 30, 2008**

[Name] arrived in the area and met Officer [Name] along side the Union Pacific Railroad tracks east of the Richbar crossing.

[Name] and [Name] walked in approximately 1.5 miles to the south flank of the fire which was also the upwind side of the fire. At this point they noticed an area where the fire formed 3 separate “V” patterns on the cut bank. The welding project mentioned to [Name] by the track crew, was also located here.

Before walking the upper portion of the perimeter, [Name] and [Name] checked the bottom of the perimeter (west flank) on the railroad grade. They observed the weld on the north end and a cut and splice on the south end. (two pieces of metal drilled and bolted over the joint between the two rails to join them together) There were also drill turnings lying in the ties at both ends of the work area. A 30 foot section of rail was lying to the west of the west rail with fresh, (unrusted) cut ends. The south end of this rail had a recent cut approximately 18 inches from the end. This cut was made with a cutting torch. (Name) has experience using cutting torches, oxygen/acetylene and arc welding and recognized the cutting process when observed). The north end had two cross sectional pieces of rail lying next to it. One piece is approximately one half inch thick and the other a few thousandths of an inch thick. They also observed flakes of metal which may have dropped off of the train wheels or brakes.

[Name] and [Name] continued by walking an uphill perimeter of the burn. Since the fire was several hundred acres at the time, they walked a large area on the hillside to read indicators and establish a general fire direction.

[Name] and [Name] walked up hill (east) on the south flank noting that the fire worked its way up the bank at a lower intensity and then became a well established run continuing up slope and also backing against the wind to the south. The backing indicators show less intense burning. Here the fire remained mostly on the ground and did not have the flame height or intensity to remove canopy as in the run area adjacent on the north. (There was a transition area between the uphill run and the backing area to the south which was a slight ridge that ran east and west up the slope they were climbing. They traversed the slope to the north confirming that the fire continued to run up slope. (indicators were angle of chare and freezing). After traversing for several feet [Name] could see indicators showing the fire was running with the wind at an angle up slope as well as across the slope, (to the north east). At this point they walked down hill watching indicators that confirmed the fire was still running in the same direction. Continuing down hill they worked into a very rocky area where the fuel continuity was broken. Here the fire could only move by spotting or trailing in fuel between the rocks. The spotting was consistent with the wind direction, which was still at an angle across slope from the south. [Name] and [Name] continued down slope back to the railroad bed approximately 70 feet north of their starting point which completed the perimeter search of the burn above the railroad tracks.
and began the examination of a burn area below the railroad grade. They dropped down the steep bank arriving at the top of this burn which was approximately one quarter acre in size.

Due to the extreme slope, they began the perimeter search at the top and worked around the south flank. Since the bottom third of the burn was very steep, walked a transect through the middle of the fire checking indicators. He reached a rock outcropping on the north flank and worked his way up slope, east to the top of the burn.

This perimeter search showed that the fire was moving up hill with a few runs that swept up through the taller oak and cedar trees. There was an area at the upper third of the south flank that showed less intense burning and backing. observed that there were power lines passing over the lower end of the burn. During inspection of the conductors observed an anomaly on the center conductor. He looked closer with binoculars and discovered that three strands of the conductor were severed and bent back approximately 3 to 5 inches. The tips of these strands are dark and the strands, uncovered by the removed strands, are shinier than the surface strands. could not locate damage on the adjacent conductors or on any other spans of the lines. He inspected the insulators on the poles at each end of this span and was unable to see any damage or anomalies. (This anomaly will be further evaluated).

and observed they would need ropes to safely access the lower portion of the burn, meanwhile they continued with the evaluation of the specific origin on the upper fire along the tracks.

and returned to the hillside, above the northern most “V” pattern. They worked their way across the slope to the south, looking at indicators, (staining on rocks and damage differential on vegetation), which showed that the fire moved up slope and across slope from the south to the north.

They followed the indicators to the south flank of the fire above the southern most “V” pattern, on the south end of the burn along the railroad tracks. On the south flank zig-zagged down slope picking up more indicators showing the fire, which created the southern most “V” pattern, traveled up hill.

examined this “V” pattern on the bank locating micro indicators, (staining on pebbles, damage differential on small organic material), which guided him to a “Specific Origin” approximately 2 feet wide by 6 feet long. For identification purposes he labeled this “V” pattern, “Site 1” and later, the point of origin found within: “Point Of Origin #1”.

and inspected this area using two grid lanes, each approximately 1 foot wide. They visually inspected these lanes with a magnifying glass and then with a magnet. The magnet picked up ferrous material which looked like short threads or fine wire.

Inspection of indicators in the two “V” patterns, on the railroad bed, north of “Site 1”, showed the fire moved up the cut bank toward the rest of the burn on the hillside.

The two “V” patterns, one just north of Site #1 and the other on the northern most end of the burn along the tracks, were identified as “Site 2” and “Site 3”, respectively. The fourth burn was a narrow stringer on the cut bank. Inspection of the indicators in this stringer, showed the fire moved down hill, from the main burn, to the toe of the bank. This portion of the fire continued moving north along the toe of the bank and then burned back up the cut bank into the large rock outcropping, several feet north of the point at which it came down the bank. From the indicators concluded this was not an origin area and did not give this stringer a label.
Inspection of microindicators in "Site 2" reduced the area to a specific origin measuring approximately 12 inches. This area was small enough not to require a formal grid lane. The investigator searched the area visually with a magnifying glass and then ran a magnet over it locating a short thread or fine wire object which stuck to the magnet.

and established a power pole (#33) as a reference point and measured bearings and distances from this pole to the 3 points of origin as well as the weld and the splice on the track.

collected the two thin cross sectional slices of the railroad track sitting next to the removed section of railroad track.

**July 31, 2008 Examination of area below railroad bed.**
At approximately 12:30 resumed examination of the fire scene beginning with the burn spot below the railroad grade. He started with photographing the conductor over the burn area, while Officer collected evidence up on the railroad bed.

then continued examination of the burn, following indicators down hill that lead him to an area at the bottom of the burn, on the steep bank which had a “V” pattern. Indicators leading to this location were scooting on small rocks and degree of destruction on small vegetative matter. This “V” pattern was named “Site #4”. He continued along the bottom area of the burn and located 3 other “V” patterns. From south to north these other 3 “V” patterns were named “Site 5, Site 6 and Site 7” respectively.

stopped his examination of the area to record the scene with photographs prior to leaving for the evening.

**August 1, 2008**
and arrived at the burn approximately 11:00 am and resumed inspection of the origins.

examined Site #4, on the bottom of the burn, below the railroad, on its southern most side. Using the magnifying glass and the naked eye he followed micro indicators, (charring and damage differential), and located a burned piece of cedar bark in the point of origin. The bark was approximately one half inch wide by one and one half inches long. There is a partially burned cedar at the top of the burn 50 feet uphill.

also examined two other spots lower down on this burn. (Site #5 and Site #6). They were both clumps of grass. He used the magnet on these and visually inspected them however he was unable to successfully sift them since he could not dig in the grass with out potentially damaging or moving any evidence. later dug out the entire clumps and stored them in a sealed bag to dry and analyze at a later date. On initial examination, he was able to locate several burned leaves, from a deciduous bush, among the grass stems. A plant with similar leaves was adjacent to the clumps of grass and this bush had burned.

examined the fourth spot, “V” pattern, which is the furthest spot to the north on the bottom of the burn. (Site #7). He inspected it visually with a magnifying glass and magnet.

**August 2, 2008**
and returned to the scene at approximately 11:45 am and began a close examination of Site #1 at the south end of the burn on the railroad bed.

made passes over the area with a magnet and located a flake and granule of unknown material which he collected. He also observed more fire direction indicators that pointed toward the south end of the Site #1, which became point of origin #1.
Leaving Site #1, moved to the area on the slope below the railroad bed, and located several clips that hold the track iron to the concrete tie. He found these clips scattered among the large boulder scree. The clips had scratches on them as if they were thrown from the railroad bed to the rock scree below. They also had fresh wear marks and grease accumulation which is consistent with being recently removed from the track, most likely during the track replacement and weld. Photographed and collected the clips.

At approximately 14:30 he resumed the inspection of Site #1.

Using the magnet, recovered small metallic spheres in this area which upon further examination were found to be hollow.

The Point of Origin, of Site #1, was covered with groupings of rocks with leaves and other forest litter inserted between the rocks. Upon passing the magnet over the litter he was able to pick up a few of the spheres. Assuming the spheres may have sifted down between the rocks and leaves; he dug them up, sifted them and passed the magnet over the siftings. With this method retrieved many more spheres than just passing the magnet over the top of the rocks and leaves.

He dug deeper into the loose soil to discover how deep the spheres were distributed and found that after approximately the 1 inch depth mark, they disappeared.

**August 4, 2008**

wanted to determine if the spheres could have an association with the burn or were common to the region. To do this he examined four “sample plots”, in Site #1, in addition to the Point of Origin #1.

Sample plot #1 was in the burn 7 feet 4 inches above the Point of Origin which produced approximately 2 spheres. Sample plot #2 was outside the burn to the south, 17 feet from sample plot #1 at the same elevation. Sample plot #2 produced no spheres.

Sample plot #3 was approximately 30 feet south of the Point of Origin outside the burn at the same elevation and produced no spheres.

Sample plot #4 was in the burn 2 foot 10 inches north of the Point of Origin and produces approximately 6 spheres which were smaller in diameter than those found in the Point of Origin.

**August 5, 2008**

continued the origin examination on the railroad cut bank, moving on to Sites #2 and #3. He performed the same search procedure with sifting and using the magnet, as he did on Site #1.

Site #2 is encircled by several large rocks. Searching the area with the magnet divided the space into three significant areas. The top, (East), portion of the space produced the most spheres. The lower left, (North West), portion produced fewer spheres. The lower right or South West portion produced no spheres at all. The spheres in origin #2 are smaller in diameter than those found in origin #1. At this site the spheres disappeared from the loose soil after approximately 1/2 inch in depth.

also sampled a plot, 22 inches above the Point of Origin in Site #2. This plot produced no spheres. Officer and noticed a crust on the soil surface here that was consistent with moisture soaking and drying on the soil. They surmised this may be the retardant that the welders sprayed on the ground to prevent sparks from starting a fire. They also noted that the vegetative material in the sprayed area was burned.
performed the same operation on the Point of Origin in Site #3 and found no spheres at the point of origin. He found 2 very small spheres several inches to the south east of the point of origin and one under the lip of a rock.

examined a sample plot approximately 15 inches above origin #3 and found 3 spheres which were also small diameter.

None of the samples in Point of Origin #2 or #3 produced as many spheres as the sample taken in Point of Origin #1.

decided to learn if there is a relationship between the spheres and the point of origin.

Site #1 was large enough to take many sample plots, within the burn, to provide data for a relationship analysis.

plotted out 18 more sample plots totaling 21 plots with the original sample plots included. The plots were arranged in 4 horizontal rows of 5 plots, (the top row had 6 plots), and the lowest row was on the same level as the point of origin. The top row was the same level as Sample Plot #1. The plots were spaced approximately 24 inches laterally and vertically (terrain allowing) from Point of Origin #1. He performed the same sampling process as before, sifting and passing a magnet over the siftings. He also repeated this in the original sample plots that were within the point of origin.

The sampling results show the concentration of beads is in the burn and in the lower two feet of the burn. The largest numbers were in the vicinity of the point of origin in Site #1.

After leaving the origin area for the day, met with Pacific Gas and Electric “Trouble Man”, and had him examine the photos of the damage to the conductor. His analysis was that it appeared to be a gun shot which would have the velocity to sever the strands and bend them backwards as they appeared in the photo. He also explained that something would have to have acted as a “ground” to carry the energy to the earth and cause a fire, or something would have to span from this conductor to one of the others to cause an arc which could have dropped molten metal to the earth causing a fire. If this had happened then there would be corresponding damage to a second conductor or be long enough to reach from this conductor to the ground. During an examination from the ground, did not locate damage on the other conductors or items long enough to reach the ground.

Pacific Gas and Electric was contacted by the Assistant U.S. Attorney’s Office, Sacramento, requesting a SCADA report for interruptions in this line. The report did not reveal any interruptions, which would indicate there were no shorts in the line.

A closer analysis of the conductors and damage is required and will be arranged with PG&E to include or eliminate the power line as a possible cause.

**August 6 & 7, 2008**

requested any reports of the Rich Fire from the 911 lines at the County Sheriff’s Department, California Highway Patrol and the Plumas National Forest Dispatch Office.

This resulted in confirming that whose name is listed on the U.S. Forest Service “WildCAD Incident Card”, was the first party to report the fire.
Interviews
Special Agent [redacted] interviewed [redacted] and crew members of U.S. Forest Service Engine 25.

Mr. [redacted] was traveling eastbound on Highway 70 in his motor home. Mr. [redacted] was alerted to a train on the tracks by the squeal of its brakes. He noted that the train was located near a tunnel on the railroad. He continued east and observed a fire on the hillside. [redacted] pulled over in a turnout across from the fire and attempted to call 911 on his cell phone but had no cell service. He later determined, by his cell phone log, that he had attempted the call at 15:10 hours.

[redacted] and [redacted] later drove the highway. [redacted] video taped the drive while [redacted] narrated what he recalled seeing during his initial drive up the canyon.

[redacted] interviewed the crew of Engine 25, the first engine to arrive on scene after the initial report. Using photographs of the scene as they may have seen it upon their arrival, [redacted] had them draw on the photographs to illustrate what they remembered observing.

Two of the crew members remembered a spot fire below the railroad tracks. Three of the crew which includes the Engineer and Captain, who usually have the most fire experience, did not see fire below the railroad tracks. All members noted the intensity of the fire on the ridge. The wind direction was up slope and up canyon.

[redacted] the engine captain, emphasized that the fire was wind driven.

[redacted], a crew member in the rear seat of the engine, stated he took two photos of the initial view of the fire with his cell phone camera. These photos do not show fire below the railroad bed.

August 8, 2008
Special Agent [redacted] and [redacted] interviewed the original reporting party, [redacted] at her home in Oroville, California.

[redacted] and her 14 year old daughter, [redacted], stated the fire was below the railroad grade. [redacted] drew a sketch indicating the location. [redacted] viewed several photos (provided by investigators) and identified which photos may have been where she saw the fire.

Weather conditions
The fire started in a portion of the canyon that narrows down and creates winds of higher velocity than wider areas of the canyon. A fire behavior analyst measured wind speed approximately ½ mile below the point of origin at 4.3 mile per hour. Approximately 200 yards below the point of origin (south) he measured the wind speed at 14.3 miles per hour. ½ mile above the point of origin (north) the wind speed was 5.5 miles per hour.

During the course of the investigation at the origin area, the investigators noticed a stiff breeze that was up canyon (south to north) shifting to an angle up slope and up canyon. (south west to north east). This wind direction was illustrated by the direction the indicator flags were blowing in several photographs.
November 18, 2008

Metallurgical examination of metal spheres located at origin.

An initial analysis of the metal spheres was conducted by a metallurgist. The spheres were identified as steel rather than iron, due to the elemental content which included iron, carbon and chromium. Steel is an alloy material not naturally occurring in nature.

The metallurgist also pointed out that metal spheres can be produced by welding or cutting of metal. Welding produces solid spheres while cutting typically produces spheres with hollow centers. The spheres found in the origin had hollow centers.

September 15, 2009

Examination of power line adjacent to origin.

On September 15, 2009 [redacted] and an electrical engineer, contracting with the U.S. Forest Service, examined the electrical conductors below the rail road bed which spanned across the burn area below the railroad bed. Also present were a Pacific Gas and Electric (PG&E) investigator and an electrical engineer contracting with PG&E.

PG&E technicians removed the conductor with the broken strands as well as an adjacent conductor and lowered them toward the ground where investigators could view them.

Upon inspection it was evident that a semicircular deformation on the side of the conductor was a shape and size consistent with a bullet strike.

The event produced minimal arcing upon separation of the strands.

A section of the damaged conductor approximately 10 feet long, which included the damaged portion, was removed by PG&E technicians and collected by [redacted].

Investigators examined the other two adjacent conductors for marks indicating a short between conductors but found no evidence of this.

Review of origin area on rail road bed.

During the electrical conductor examination [redacted] viewed the present condition of the origin area, specifically the work area on the rail road tracks.

[redacted] noticed the south end of the replaced track was now welded. During the fire this end was connected with plates bolted to the two rails. The old removed section of rail was no longer lying beside the work area and was not located.
Photo La Pointe
Nikon & Sony

Date: 8-3-08
Photo location: Penin

burn

rock scree

clip location

drawn by [redacted]
date 83-08
PHOTOGRAPH LOCATION POINT SKETCHES

TO BE CREATED
8-5-08

11:00 sifted origin #2 & 3 at trades
located small beads
Area most beads least

few beads

beads were within .5" of surface - digging
deeper they disappear
beads are smaller where few beads were found
than those in site #1. Site #1 had the largest
beads so far.

photo #5 (Sony Nile 102) of crust frame ancient as
if water had been sprayed. This is sample spot
above #800 #2

no beads located in this plot
Sample plot NE of #800 #2 - 18"
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<tr>
<td>1.</td>
<td>not related to Rich Fire, trees, hillside, powerlines</td>
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<tr>
<td>2.</td>
<td>uphill from track work approximately 50 feet.</td>
</tr>
<tr>
<td>3.</td>
<td>looking across the hill, to north, into burn from photo #2 location.</td>
</tr>
<tr>
<td>4.</td>
<td>just uphill form photo #3, looking north, across the slope.</td>
</tr>
<tr>
<td>5.</td>
<td>freezing indicator on oak, looking north located above photos #3 and #4.</td>
</tr>
<tr>
<td>6.</td>
<td>same as photo #5.</td>
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<tr>
<td>7.</td>
<td>looking south, across the slope at lateral fire area.</td>
</tr>
<tr>
<td>8.</td>
<td>Rock staining at rock chute looking north at south side of rocks.</td>
</tr>
<tr>
<td>9.</td>
<td>North side of rocks, in photo #8, looking south toward #8 photopoint.</td>
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<tr>
<td>10.</td>
<td>looking south near top of rock chute, where fire lateraled southand traveled north across slope.</td>
</tr>
<tr>
<td>11.</td>
<td>same as photo #10.</td>
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<tr>
<td>12.</td>
<td>looking north west at angle of char on trees just below ancient trail.</td>
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<tr>
<td>13.</td>
<td>looking south west toward the point of origin at run that came out of rock chute.</td>
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<tr>
<td>14.</td>
<td>looking up hill from photo point #13, at rest of run that came out of rock chute.</td>
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<td>15.</td>
<td>overall, looking south across rock chute, from trail.</td>
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<td>16.</td>
<td>angle of char on cedar tree, uphill from trail, looking north east.</td>
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<td>17.</td>
<td>overall of photo #16.</td>
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<td>18.</td>
<td>angle of char on cedar tree, from uphill run, looking north.</td>
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<td>19.</td>
<td>uphill run, looking east from above trail.</td>
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<td>20.</td>
<td>spots and die-out areas, north side of second rock chute, looking north.</td>
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<tr>
<td>21.</td>
<td>advancing indicator on oak, south of second rock chute, approximately 75 feet above railroad bed.</td>
</tr>
<tr>
<td>22.</td>
<td>charring and sooting on rocks and oak trees. Looking north east.</td>
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<tr>
<td>23.</td>
<td>Looking south east from below railroad bed. Smoke indicates wind direction.</td>
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<tr>
<td>24.</td>
<td>bottom of spot below railroad bed, looking north.</td>
</tr>
<tr>
<td>25.</td>
<td>looking up hill from bottom of northern most finger, on spot below railroad bed.</td>
</tr>
<tr>
<td>26.</td>
<td>looking up hill from #25, showing leaf curl.</td>
</tr>
<tr>
<td>27.</td>
<td>wire rock barrier/ alarm, east side of tracks, north of origin area.</td>
</tr>
<tr>
<td>28.</td>
<td>close-up of wire barrier dry chemical fire extinguisher powder.</td>
</tr>
<tr>
<td>29.</td>
<td>frayed wires on middle conductor of powerline below railroad grade, looking west.</td>
</tr>
<tr>
<td>30.</td>
<td>same</td>
</tr>
<tr>
<td>31.</td>
<td>same</td>
</tr>
<tr>
<td>32.</td>
<td>same</td>
</tr>
<tr>
<td>33.</td>
<td>same</td>
</tr>
<tr>
<td>34.</td>
<td>same</td>
</tr>
<tr>
<td>35.</td>
<td>depth of char/ white ash on brush trunks, looking east, uphill. Contrasted to photos #35 and #36.</td>
</tr>
<tr>
<td>36.</td>
<td>more black on trunks compared to #35. Looking south.</td>
</tr>
<tr>
<td>37.</td>
<td>same.</td>
</tr>
</tbody>
</table>
38. looking north across slope. Lower intensity, some protection.
39. foliage freeze, looking uphill from a few feet above the railroad bed.
40. angle of char on small oak, 20 feet above railroad bed, looking south.
41. same.
42. angle of char on stobs.
43. hillside east of track near track work.
44. apparent fire extinguisher powder on ballast.
45. close-up of white powder.
46. indicator flags demonstrating south wind.
47. indicator flags at base of hill and ballast, demonstrating south wind.
48. grid at southern most point of origin on railroad bed looking south.
49. same looking east from track.
50. looking north along railroad track from southern most work on track.
51. close-up of joint between new rail and old, where it was spliced with plate.
   Southern end of work.
52. turnings from drilling rail at southern end of work where rail was spliced.
53. same.
54. location shot of turnings in photos #52 and #53. Showing additional turnings.
   Looking west.
55. northern end of replaced rail, showing weld, glove on concrete tie, and shavings
   on ballast. Looking west at west rail.
56. close-up of turning, center of photo #55 on tie.
57. shavings/turnings against rail to the right of turnings in photo #56 and #55.
58. north end of old rail showing cut wafers of rail and bolts. Looking south. Welded
   rail is to left.
59. close-up of north end of old rail and wafers of the rail, and bolts.
60. southern most specific origin at southern end of track work. Looking east.
61. same as photo #60.
62. northern track work and northern most specific origin looking north east.
63. damage to powerline conductor west side of railroad bed in river canyon. Looking
   west and down from higher elevation.
64. same.
65. same.
66. same.
67. same.
68. conductor looking west and up from lower elevation.
69. same, from more underneath the conductor.
70. specific origin, bottom right flank of burn below railroad bed, looking east, up
   hill.
71. same.
72. close-up of photos #70 and #71.
73. unknown object picked up with magnet in point of origin, photo #70.
74. second unknown object found in same area. Blew away when placing in
   collection container.
75. grinding wheel located in rock scree, outside upper right flank of burn below the
   railroad bed.
76. same with size comparison.
77. location view of grinding stone, above rope, center of photo.
78. rock fence several yards south of burn area.
79. close-up of rock fence.
80. further down length of rock fence.
81. same.
82. further along fence.
83. same.
84. looking north from approximate location of photo point #83.
85. cigarette butt found on ballast south of burn.
86. location view of cigarette location.
87. rock fence north of burn area.
88. specific origin area north of Photo #70 specific origin. Bottom edge of burn below railroad bed.
89. overall of specific origin in photo #88.
90. location view of origin looking east, uphill. Large cedar tree is top of burn.
91. same as #90 in portrait format.
92. small spot one foot south of photo #88.
93. orientation of #92 to #88.
94. close up of grass indicators in #92, looking north.
95. origin furthest north on bottom edge of burn below railroad bed.
96. close-up of grass indicators of photo #92 with bush leaves.
97. photo of other leaves in grass.
98. specific origin furthest north
99. same close-up.
100. ledge and brush above looking east.
101. brush that dropped sticks to ledge below.
102. powerline over burn showing clearance.
103. looking north at bottom of lower burn.
104. grinding wheel above tracks on north end of burn area.
105. location view of grinding wheel looking east.
106. powerlines north of burn.
107. photo from south of burn looking north east.
108. point of origin furthest south on railroad bed.
109. same with sample plot flags.
110. sample plot south of Point of Origin #1, outside of burn.
111. same plot with flags.
112. sample plot approximately 30 feet south of Point of Origin #1, outside of burn.
113. same plot with flag.
114. Point of Origin #1 with flag at top.
115. same with lower sample plot flags added.
116. Overall of Point of Origin #1 from south on tracks, showing relationship of sample plot south of Point of Origin #1 out of burn (near little tree).
117. Point of Origin #1, overall, with track work in foreground.
118. same with measuring tape to toe of burn.
119. same as #118 with more of burn showing.
120. beads located, first magnetic inspection of Point of Origin #1.
121. same
122. Point of Origin #2
123. Point of Origin #2 with flag.
<table>
<thead>
<tr>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>504</td>
<td>Not related to Rich Fire</td>
</tr>
<tr>
<td>505</td>
<td>Not related to Rich Fire</td>
</tr>
<tr>
<td>506</td>
<td>Not related to Rich Fire</td>
</tr>
<tr>
<td>507</td>
<td>Using rope to maintain stability on burn area below railroad tracks.</td>
</tr>
<tr>
<td>508</td>
<td>Same</td>
</tr>
<tr>
<td>509</td>
<td>Same</td>
</tr>
<tr>
<td>510</td>
<td>Same</td>
</tr>
<tr>
<td>511</td>
<td>Same</td>
</tr>
<tr>
<td>512</td>
<td>Track line east of origin (between origin and Virgilia).</td>
</tr>
<tr>
<td>513</td>
<td>Siding on west end of Virgilia crossing.</td>
</tr>
<tr>
<td>514</td>
<td>Union Pacific provided transportation to origin.</td>
</tr>
<tr>
<td>515</td>
<td>Same at Virgilia crossing.</td>
</tr>
<tr>
<td>516</td>
<td>Example of slope on burn below railroad grade.</td>
</tr>
<tr>
<td>517</td>
<td>Same.</td>
</tr>
<tr>
<td>518</td>
<td>Looking up slope, east, at south flank of burn below railroad. Cedar tree is top of burn.</td>
</tr>
<tr>
<td>519</td>
<td>Looking south in rock pile where clips are. Rock cairn, lower right is clip#1.</td>
</tr>
<tr>
<td>520</td>
<td>Close up of #1 in place</td>
</tr>
<tr>
<td>521</td>
<td>Scratches on clip#1</td>
</tr>
<tr>
<td>522</td>
<td>Same</td>
</tr>
<tr>
<td>523</td>
<td>Same</td>
</tr>
<tr>
<td>524</td>
<td>Clip #2 in place</td>
</tr>
<tr>
<td>525</td>
<td>Wear marks on #2</td>
</tr>
<tr>
<td>526</td>
<td>Scratches on #2.</td>
</tr>
<tr>
<td>527</td>
<td>Looking straight above #2 at conductors. North is right side of photo. The flaw in the conductor is north.</td>
</tr>
<tr>
<td>528</td>
<td>Clip #3 in place</td>
</tr>
<tr>
<td>529</td>
<td>Closer in of #3.</td>
</tr>
<tr>
<td>530</td>
<td>Scratches</td>
</tr>
<tr>
<td>531</td>
<td>Same</td>
</tr>
<tr>
<td>532</td>
<td>Same</td>
</tr>
<tr>
<td>533</td>
<td>Conductors above #3. Right side of photo is north.</td>
</tr>
<tr>
<td>534</td>
<td>Torch cut in old rail. Burn Site #1 is in background.</td>
</tr>
<tr>
<td>535</td>
<td>Looking down on torch cut.</td>
</tr>
<tr>
<td>536</td>
<td>Beads located with magnet at Origin #1.</td>
</tr>
<tr>
<td>537</td>
<td>Close-up of #536.</td>
</tr>
<tr>
<td>538</td>
<td>Beads located at Origin #1.</td>
</tr>
<tr>
<td>539</td>
<td>Hole/origin, where flakes and beads were found. Beads found right of photo below lip of flat rock.</td>
</tr>
</tbody>
</table>
540. Side view of beads.
541. same.
542. Same beads looking down.
543. Markings on replaced rail.
544. Replaced clips o rail. Lack of grease build up.
545. East rail with grease on clips.
546. Beads, etc from Point of Origin #2.
547. same.
548. Origin #2 at railroad bed.
549. Origin #2 overall.
551. Overall of origin #2 showing it and two sample plots flagged.
552. Torch cut on short piece of old rail.
553. Torch cut on long piece of old rail.
554. Rail joint at clamped end looking north.
555. Rail joint at clamped end looking east.
556. Rail joint at clamped end. Close-up looking east.
557. Specific Origin #3. Top of photo is east.
559. Same with big rock removed.
560. Debris on magnet from spot under rock. Unknown flake.
561. Overall of Origin #3.
562. Same with sampling/sifting area flagged.
563. Same with fourth and higher plot added.
564. Flags marking distribution sample plots at Origin #1.
565. same
566. same
567. Origin #5 below railroad.
568. Origin #5 below railroad.
569. Origin #5 below railroad.
570. Origin #6
571. ?
572. ?
573. ?
574. ?
575. Close-up of vegetation in Origin #4.
577. Sifting from Origin #4 showing cedar bark and leaves.
Yellow lines are perimeter walked on July 30, 2008.
Red line is the perimeter walked on July 31, 2008.
Photo 54, (Nikon), rail splice at south end of replaced rail. Shavings at left end of splice plate.
Photo 55, (Nikon), 1. Chemical weld at north end of replaced rail. (Old rail in background).
2. Leather glove on tie, left of center. 3. Shavings right of this tie.
Photo #59 (Top photo), Close-up of north end of old rail showing cut ends of rail, (later collected), and bolts.

Photo #50 (Left photo), Looking north showing orientation of old rail, on left, to track location.
Photo #534 (Sony), torch cut on old rail, (foreground), splice/work area on track, Site #1 on bank in background.
Photo 3 Nikon,
Looking across slope, north, from south flank approximately 50 feet above the tracks. Up slope run to east.
Photo 2, Nikon: approximately 50 feet above the tracks on the south flank. Looking uphill, east, on edge of south flank. Shows run on left side of photo. Right side shows decreased intensity and die-out indicating lateral or backing.
Photo 8, Nikon: several feet above photo #2. Looking across slope, north, into the burn and a slope influenced, run to the north of the south flank.
Photo 7, Nikon: south flank showing transition from run (foliage freezing foreground to lateral or backing, decrease in fire intensity, shown with more intact brush to rear of photo.
Photo 13, Nikon: Looking down a run toward the point of origin. (south west).
Photo #10, Nikon
Trees on south flank, upper end of perimeter search. Began traversing across Slope from above these trees. Looking back to south flank from traverse.
Photo #13
Display of how fire moved up slope as a run (red arrows) and backed or lateralled To the south (blue triangles).
Photo 14, Nikon: looking up slope, east, above the trail on north side of rock chute showing run.
Photo 17, Nikon: looking up slope, east, above the trail further north from photo #14 showing a run up slope.
Photo #18, Nikon Angle of char and Foliage freezing on Cedar tree.
Photo#20: spots and die-outs on west flank, north of origin.
Photo #21, approximately 40 feet above tracks, north of origins. Looking east upslope at rocks and scrub oak showing advancing indicators.
Photo #27, Nikon: looking north at the rock alarm fence and post with mile marker 266.4 fastened to it. Also a burn trail that moved down the dirt slough, (right side of photo) and from post north to large boulder then back up slope diagonally to south.
Photo #35, Nikon: Looking uphill, east, showing more white ash on down slope side of trunks.
Photo #36, Nikon: looking south west, showing more black on uphill side of trunks.
Photo #40, Nikon: looking south approximately 20 feet above tracks at an angle of Char indicator on a scrub oak. This indicates an uphill, east, advancing run.
Photo #42, Nikon: Looking uphill, east at angle of char/cupping on stobs and staining on rocks, indicating the fire traveled diagonally from right to left on the photo.
Photo #43, Nikon: looking east from track, showing site #1 which is the furthest point of origin to the south on the east side of the track.
Photo # 46, Nikon: looking east from tracks at Site #1, with indicator flags and the prevailing south wind affecting the flags.
Photo #48, Nikon
Grid lane for Origin #1, looking south parallel to railroad tracks.
Photo #49, Nikon: Looking east from the tracks at Site #1 and the grid lane at the specific origin.
Photo #565, Sony
Flags placed at sample plots in Site #1.
Photo #549, Sony: looking east
From railroad bed at Site #2.
Looking east from track bed at crusty soil in Site #2.
Photo #561, Sony
Overall of Site #3 looking east from tracks.
Photo #557, Sony. Specific origin in Site #3, top of photo is east.
Photo # 89, Nikon: angle of char on brush. Looking east. Site # 5.
Photo #88. Nikon: Angle of char and grass head indicators Site #6. Fire moved from lower right to center of photo.
Photo #93, Nikon
Looking east at Site #5.
Leaves in grass clumps, Site #5.
Photo #536, Sony
Beads and other material removed from Point of Origin #1.
Photo #537, Sony
Close-up of beads, in #536, removed from Point of Origin #1.
Photo 6002 A provided by SEAL Laboratory
Electron microscope photograph of a sphere removed from the origin area
Photo by SEAL Laboratory of sample #1006
Photo of sphere found in origin showing hollow interior.
Photo and graph for sample # 6002A

Electron microscope photograph of sphere and graph of elemental components of sphere. Graph shows primary elements making up sphere are iron oxide, iron and manganese which is consistent for the components of steel.
Photo 5002 A provided by SEAL Laboratory
Sphere located in origin area with magnet.
Photo provided by SEAL Laboratory
Photo and graph for sample # 5002A

Electron microscope photograph of sphere and graph of elemental components of sphere. Graph shows primary elements making up sphere are iron oxide, iron and manganese which is consistent for the components of steel.
Graph provided by SEAL Laboratory
Graph shows elemental components of filings taken from old railroad track laying next to new track which had been cut by a torch. Shows similarity to makeup of spheres.
Sample 5002 A sphere exhibit __

Torch cut sample

Filings sample from old track

Sample 4002 C unknown material

Sample 6002 A Sphere exhibit __

Comparison of elemental makeup of material located in origins with magnet. Spheres compare well to track samples while "unknown" material does not.
Photo by [redacted] USFS
Track grinding demonstration with tent as spark shield.
Photo #68 Nikon
Damage to conductor as found on July 30, 2008 by [Redacted]
Photo #93, approximate location of the anomaly on the powerline.
Damage to conductor looking west from the railroad side of conductor, (east side)

Photo #110, Nikon 7-15-09
Photo #109,
Damage to conductor, photographed from railroad side of conductor, (east),
Looking north west.
2. NATURE OF INVESTIGATION
Rich Fire

3. STATEMENT OF (Last, First, Middle)  

4. SOCIAL SEC. NO.  

5. DOB  

6. SEX  

7. HOME ADDRESS (St., City, State, ZIP Code)  

Simi Valley, CA  93063  

8. DRIVER’S LIC. NO.  

9. PHONE (H) (Area Code)  

10. EMPLOYMENT (Occupation and Location)  

Retired Ventura County Fire Captain  

11. PHONE (W) (Area Code)  

12. LOCATION STATEMENT TAKEN  

Lake Almanor & Plumas NF  

13. NAME OF OFFICER TAKING STATEMENT  

14. DATE/TIME STARTED  

07-30-2008  

15. STATEMENT

On July 29, 2008, I was traveling from the Oroville, CA area eastbound on Highway 70 through the Feather River Canyon. I was enroute to Lake Almanor in my 34' motor home, and my wife was following behind in our car. At about 3:00 or 3:15 pm, I saw an eastbound train and heard a squealing noise like metal on metal – I’m sure it was the sound of the train’s brakes. I recall the train was near a tunnel and where the mountain came down towards the highway. I continued driving east and saw smoke on the other side of a hill, and when I got around the hill I could see flames. I pulled into a turnout on the right side of the road and I could see flames. I sat in the turnout for about three minutes. The turnout I pulled over in was located about 10-12 miles west of the junction of Highway 70 and Highway 40 through Greenville. I tried to call 911 to report the fire, but my cell phone did not have coverage in that area. My son looked at my cell phone call information later, and determined that I tried to make the 911 call to report the fire at 3:10 pm. I saw a second westbound train after we were about two miles east up Highway 70 past the fire. The only other eastbound car we saw was a white sedan, and it would have been about 1-2 minutes ahead of us by the time we got to the fire. Traffic on Highway 70 was unusually light, but we did see an occasional westbound logging truck.

I went with Agent back to the area where I saw the fire, and showed her where I pulled the motor home over. I described where I saw the flames when we (my wife and I) were there in the turnout. Agent put a video camera on the dash of her vehicle, and I narrated what I saw while we drove Highway 70 east towards where I first saw the smoke and then the flames. I also drew a sketch for Agent that is attached to this statement.

I have read the foregoing statement consisting of two pages. I fully understand this statement and declare that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promises of reward having been made to me in return for it.

Subscribed and sworn to before me on this____ 7th day of____ August 2008 at ________________

(Signature of Affiant)  

Special Agent  

(Signature of Witness, if any)

NOTE: This document is for OFFICIAL USE ONLY. It and its contents are not to be distributed outside your agency, nor duplicated, without prior approval of the USDA, Forest Service, Law Enforcement and Investigations.
USDA
Forest Service

MEMORANDUM OF INTERVIEW
(Reference FSi 5309.11)

2. NATURE OF INVESTIGATION

3. NAME OF PERSON INTERVIEWED (Last, First, Middle)

4. SOCIAL SEC. NO.

5. DOB

6. SEX

7. HOME ADDRESS (St. City, State, Zip Code)

8. DRIVER'S LIC. NO.

9. PHONE (H) (Area Code)

10. EMPLOYMENT (Occupation and Location)

11. PHONE (W) (Area Code)

12. LOCATION OF INTERVIEW

13. NAME OF OFFICER CONDUCTING INTERVIEW

14. OTHERS PRESENT

15. STARTED

Date

Time

ENDED

Date

Time

16. REMARKS

AT APPROX 1530 WE WERE DISPATCHED TO A VEGE FIRE AT TUNNEL 25. DISPATCH STATED THE UP TRAIN TO EXTINGUISH THE FIRE. AT APPROX MILE MARKER 21.50-30.74 WE STOPED AND SIZED THE FIRE 5 ACRES AND AGGRESSIVELY MOVING. WE EXTINGUISHED EAST UP THE ROAD 3 SPOT FIRES ON THE GUARD RAIL OF THE HIGHWAY. ALSO, THE TRAIN, A UP TRAIN, WAS STOPPED AND THEN STARTED MOVING DOWN CANYON. AFTER PUTTING THE ROAD SIDE SPOTS OUT I STARTED 3 SPOTS ABOVE THE HIGHWAY AND GROWING RAPIDLY. WE TRIED TO GET ACCESS BUT COULD NOT DO SO TO STOP CUT BANKS. WE THEN MOVED TO RUSH CREEK TO EVACUATE AND PERFORM STRUCTURE PROTECTION. ALSO UPON ARRIVAL A UP SLENDER DROVE UP TO US AND QUICKLY LEFT.

17. OFFICER'S SIGNATURE

18. WITNESS' SIGNATURE (If Applicable)

FS-5300-19 (4)
2. NATURE OF INVESTIGATION
RICH FIRE

3. STATEMENT OF (Last, First, Middle)

4. SOCIAL SEC. NO.

5. DOB

6. SEX M

7. HOME ADDRESS (St., City, State, ZIP Code)
QUICK CITY, CA 95971

8. DRIVER'S LIC. NO.

9. PHONE (H) (Area Code)

10. EMPLOYMENT (Occupation and Location)
USFS FIRE

11. PHONE (W) (Area Code)

12. LOCATION STATEMENT TAKEN
UNIT 70, 2000

13. NAME OF OFFICER TAKING STATEMENT
SPECIAL AGENT

14. DATE/TIME STARTED
9/18 0805

15. STATEMENT

I am the 3rd (3rd) person on Plumas Engine 25 on 7/18/08.
Please see attached photo for my size-up of the Rich Fire.
My Engine was 1st on Scene, responding from Causer Bar.
Fire Scene. We were dispatched at approx. 15:00 and arrived on
Scene at about 1530.

I have read the foregoing statement consisting of 4 pages. I fully understand this statement and declare under penalty of perjury
that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been
given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promise of reward having been made to me in return
for it.

(Signature of Affiant)

Subscribed and sworn to before me this 5th day of
JUNE, 2008, at KAY TO C and 20.74

(Signature of Witness, If Any)

>Title

(Signature of Witness, If Any)
CUMMINS FIRE
Saddle & GRAP TREE TOWARDING

Column was very loud over due to

WIND BLOWING
FIRE

Very little if any fire
here

Not very active fire
seemed like ground & creeping
fire

8/5/08
2. NATURE OF INVESTIGATION

Rich Fire

3. STATEMENT OF (Last, First, Middle)

4. SOCIAL SEC. NO.

5. DOB

6. SEX

Male

7. HOME ADDRESS (St., City, State, ZIP Code)

Sun Valley Rd 9257

8. DRIVER'S LIC. NO.

9. PHONE (H) (Area Code)

10. EMPLOYMENT (Occupation and Location)

USFS Plumas National Forest Gansser Bar unit

11. PHONE (W) (Area Code)

12. LOCATION STATEMENT TAKEN

13. NAME OF OFFICER TAKING STATEMENT

Special Agent

14. DATE/TIME STARTED

08-05-08 08:30

15. STATEMENT

Responded to a Fire near our station (Gansser Bar) at about 15:15. Headed east bound on Highway 70 towards Quincy. I was sitting behind the driver at seat and when coming around a corner I took out my camera phone. I took 2 pictures coming from station. Then was put away. What I saw when we got closer was Fire running up the hill above this spot. I also saw flames along the tracks. The fire with lots of smoke moving uphill at fire below the tracks. Fire below tracks looked like small spot fire. I marked on the attached photo graph what I saw on scene.

I have read the foregoing statement consisting of 3 pages. I fully understand this statement and declare under penalty of perjury that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promises of reward having been made to me in return for it.

Subscribed and sworn to before me this 5th day of AUGUST, 2008, at HIGHWAY 70, Plumas National Forest

(Signature of Affiant)

(Signature)

SPECIAL AGENT

(Title)

(Signature of Witness, If Any)
A. Remember seeing fire (Possible spot fire)
B. Lots of smoke with fire
C. Fire putting out heavy smoke just above creek

08-05-08
## Affidavit

### 2. Nature of Investigation

**Rich Fire**

### 3. Statement of

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>Middle</th>
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<td></td>
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</tr>
</tbody>
</table>

### 4. Social Security No.

5. **DOB**

6. **Sex**

### 7. Home Address (St., City, State, Zip Code)

**Greenville, CA 95947**

### 8. Driver's Lic. No.

### 9. Phone (W) (Area Code)

### 10. Employment (Occupation and Location)

**Firefighter**

**Greenville Station/Boulder Cr Outpost**

### 11. Phone (W) (Area Code)

### 12. Location Statement Taken

<table>
<thead>
<tr>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenville, CA PNFS</td>
</tr>
</tbody>
</table>

### 13. Name of Officer Taking Statement

**[Redacted]**

### 14. Date/Time Started

**08/05/08 1615**

### 15. Statement

On July 29, 2008 I was assigned to PNFS E-25 for the day. At approximately 1500 a smoke was reported around Sunshine Biv. Enroute to the area we were informed that smoke was near Rich Br and by the rail road tracks with VIP (Union Pacific) workers trying to contain the fire. First sight at the smoke was over a ridge top with a dominant plume. After rounding the ridge we arrived to find a fire approximately 10-15 acres in size being torched and crown up the ridge and travel up canyon along the river, higher 100 yards up canyon of fire on the train was creeping along tracks with conductor holding out window back at fire. No body was able to get a train number due to our efforts trying to pick up status of spot across river about 5-10 ft. in size. **[Redacted]**

I have read the foregoing statement consisting of 3 pages. I fully understand this statement and declare under penalty of perjury that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promises of reward having been made to me in return for it.

Subscribed and sworn to before me this 5th day of August 2008 at Greenville, CA

**[Redacted]**

(Signature)

Special Agent

(Title)

(Signature of Witness, if Any)
Spots below the road are located below spots marked on picture. Near the contact of UP employee.
E-25 was dispatched to a vegetation fire in the Feather River Canyon. Was reported to be along the RR tracks near rich bar. Dispatch advised that RR was trying to extinguish. My job on the engine is the operator. I sit on the left front seat. E-25 was first engine or resource on scene. Saw the train parked just down canyon from the fire. East of the rich bar tunnel, slowly creeping west. The fire was moving very fast so we were not parked by the origin for very long. E-25 progressed to the east up canyon. On attached photo I marked were I though the fire to be located when on scene.

I have read the foregoing statement consisting of ___ pages. I fully understand this statement and declare under penalty of perjury that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promises of reward being made to me in return for it.

(Signature of Affiant)

Subscribed and sworn to before me this 5th day of August, 2002, at ___ o'clock ___ A.M.

(Signature)

(Tittle)
Smoke column was laying over ridge and moving up canyon.

Approx size when on scene 4-5 ac rapid rate of spread with spotting and crown runs.
**On July 29, 2008 at approx. 15:34 we arrived on scene of the Rich fire and assessed the scene to find extreme fire behavior with strong wind and spotting across the highway to road. These 3 pictures attached are what I witnessed from the passenger side rear window as we arrived on scene.**

I have read the foregoing statement consisting of [4] pages. I fully understand this statement and declare under penalty of perjury that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I made this statement freely and voluntarily, without threats or rewards, or promises of reward having been made to me in return for it.

Subscribed and sworn to before me this [__] day of [FEBRUARY, 2008], at [Hwy 10], [Y]+[__]+[__]

(Signature of Affiant)

Signature

(Title)

(Signature of Witness, if any)
\( \text{C} \) = head on fire

\( \text{O} \) = extreme heat w/ building column

\( \text{T} \) = hill or lower portion of fire

Small spot
Smoking w/ little
flames at time of
arrival, small ground
fire / little activity
at time of arrival.

Fire was moving with extreme rate
of spread especially from behind the
circled area which in turn lead to
spotting across the highway.
As occurred it was observed that there were multiple spots ahead of the main fire heading upslope and up canyon.
Small Spot / little fire activity

h11 / fires edge at arrival
On July 29, 2008 we were driving down Highway 70 toward Chico with my 2 daughters and another 14 year old friend.

We approached a corner and saw a plume of smoke rising above a ridge that was across the highway from us. The plume was grey and thick enough we could not see through it. I, [redacted], drew a sketch of the smoke as we saw it.

We then rounded the corner and saw flames. This fire was below the railroad on the hillside. I saw the flames which were, (indicated height with hand at approximately 4 feet.)

We drove down the road until we had cell service to report the fire. We saw the white poles on the side of the road with numbers on them. I gave the number as 19.9 and 19.89, one on each side of the highway. We could not see the fire from this location.

After reporting the fire we drove back up the canyon, about 2 minutes, to check on the fire. It was not visible because smoke was covering the hillside and road. We didn't want to be there.

The sketch my daughter, [redacted], drew depicts the location of the fire as we first saw it.
The photo approximates the location of the fire that I saw on 7-29-08.
The photo approximates the location of the fire that I saw on 7-29-88.
This photo approximates the location of the fire that I saw on 7-29-08.
This photo approximates the location of the fire that I saw on 7-29-08.
USDA Forest Service

STATEMENT
(Reference FSH 5300.11)

2. NATURE OF INVESTIGATION

3. PERSON MAKING STATEMENT (Last, First, Middle) 4. SOCIAL SEC. NO.

5. DOB 6. SEX

7. HOME ADDRESS (St, City, State, ZIP Code) 8. DRIVER'S LIC. NO.

9. PHONE (H) (Area Code)

10. EMPLOYMENT (Occupation and Location)

11. PHONE (W) (Area Code)

12. LOCATION STATEMENT TAKEN 13. NAME OF OFFICER TAKING STATEMENT

14. DATE/TIME STARTED

15. STATEMENT

Pickup time 13:04 - Backed up to mp 346.50 - Brought out tools & equipment - Sprayed area 30 feet perimeter with fire gel while helped took count attack & set up. Cut Raul [ Explosive & Live] weed. Ground weeds & picked up tools & sprayed area with water on gel & surrounding area. Waited 45 minutes checked area for any smokes. Saw nothing! Went back to realms & set off truck cleaned out truck time at 14:25.

I have read the forgoing statement consisting of __________ pages. I fully understand this statement and declare that the forgoing is true, accurate, and complete to the best of my knowledge. I have signed or initiated each and every page and have been given an opportunity to make any corrections or additions.

I have made this statement freely and voluntarily, without threats or rewards, or promises of rewards having been made to me in return for it.

16. DATE/TIME ENDED

17. OFFICER'S SIGNATURE

18. WITNESS SIGNATURE (If Applicable)

NOTE: This document is for OFFICIAL USE ONLY. It and its contents are not to be distributed outside your agency, nor duplicated, without prior approval of the USDA, Forest Service, Law Enforcement and Investigations.
USED 2 SPARK SLEETS & FIRE WATCH
**USDA Forest Service**

**Statement**

(Reference F3H 5309.11)

---

### 2. Nature of Investigation

- **Person Making Statement (Last, First, Middle):**
  - [Redacted]

- **Home Address (St., City, State, ZIP Code):**
  - [Redacted]

- **Employment (Occupation and Location):**
  - Union Pacific Railroad

- **Date and Time Started:**
  - [Redacted]

### 3. Location Statement Taken

- **Location:**
  - [Redacted]

### 15. Statement

Welder [Redacted] received track and time rights on 02/01/2011 at 10:45 AM at Rich Bar and traveled East to MP 266 65 (Shish). While I started spraying fire suppression gel while I started setting tools, equipment, and well materials. I broke down the joint and had finished spraying and the prep for the cut. Put up our shields, cut the rail, I watched for sparks getting away from the shields. I had a water hose and shovel nearby. Finishing our cuts, I had water hose and shovel nearby. During the process, I sprayed water on the rail and ground, pushed away tools and debris, then finished the cut. I checked the place at least every 45 minutes and sprayed more water on hillside and hot area. I walked down the track (East) and slope didn't see any small smoke.

I have read the foregoing statement consisting of [redacted] pages. I fully understand this statement and declare that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

---

**Signature of Person Giving Statement**

[Redacted]

**Date/Time Ended:**

- 6/7/2003

---

**Officer's Signature**

**Witness Signature (If Applicable)**

---

**Note:** This document is for OFFICIAL USE ONLY. It and its contents are not to be distributed outside your agency, nor duplicated, without prior approval of the USDA, Forest Service, Law Enforcement and Investigations.
STATEMENT CONCERNING
INCIDENT PNF-784
The Rich Fire
July 29th, 2008
BY:

On July 29th around 3:15 p.m. I was dispatched to a fire down the Feather River Canyon near Rich Bar. While responding to the fire the radio traffic indicated the fire was taking off and had jumped Highway 70 and could soon be threatening the community of Rush Creek. Initially I was directed to continue to the Rich Bar area and was then re-directed to assist in the evacuations of the residents in the Rush Creek area. I had proceeded west of Rush Creek when I turned around on Highway 70 and noticed traffic continuing west bound toward the fire I started notifying vehicles to turn around stating the highway was closed with fire on both sides. While driving I looked across the highway and seen a railroad maintenance vehicle on the tracks heading westbound toward the fire. I proceeded to the passing lanes east of Rush Creek and set up a road block turning vehicles around. I was relieved from road block duties by one of our Helitack folks that became available.

While at the Road block I spoke with a Union Pacific crew in a vehicle and asked them if they could possibly radio the maintenance crew and have them meet me at the Virgilia crossing. When I arrived at the Virgilia crossing I met with [REDACTED] who stated it was a section foreman with Union Pacific Railroad and he and his crew were working near Belden. I also met [REDACTED] who identified himself as an Engineer Associate with Union Pacific Railroad and stated he was filling in for [REDACTED] while he was on vacation. [REDACTED] is the supervisor in charge of the railway maintenance crews. [REDACTED] stated he drove up from Oroville when he heard the radio traffic about the fire.

Forest Service Law Enforcement Officer [REDACTED] arrived at Virgilia and I explained to him that the maintenance crew would be arriving soon and statements would need to be taken. I provided him with some statement forms. I also explained to him that I personally knew both individuals on the maintenance crew and would rather not be involved in the interviews.

I was later directed to accompany Cal Fire Prevention Battalion [REDACTED] down to the fire and see if we could tell from the highway where the possible general origin could be found. We did locate an area and both agreed it would be to dangerous due to fire activity and rolling rocks to have anyone at that location this late in the day. I was then directed to secure the Railroad crossing at Rich Bar and [REDACTED] remained at the site along the highway across from the fires general origin. I was relieved from my post at Rich Bar and instructed to be the rover along the highway to ensure nobody entered the fire area along the railroad tracks.
The Rich fire command had a large spot light delivered to assist in watching the railroad tracks from across the highway near the general origin area. I remained in the area throughout the evening and into the next day. I remained at this location along the highway until 0700 a.m. I remained at this location from 0700 until replaced around 1130 by Fire Prevention Technician. Fire Investigators arrived on scene near the origin around 1100. While we were watching the general origin area nobody entered the area prior to the fire investigators.

/s/
Statement of Facts Concerning
The Rich Fire
CAPNF-784
07/29/2008
By

July 29, 2008 - Tuesday

At 3:12 PM, I was dispatched to a reported fire near the railroad tracks five minutes east of Gansner Bar in the Feather River Canyon as the Wildland Fire Investigator.

At 3:23 PM, I hear Gansner Bar Engine -25 reports the fire is across the river crowning, and growing rapidly. Shortly, E-25 reports that the fire has spotted on the north side of the canyon.

At 3:44 PM, Division 2, advises me to go up Rush Creek Road and notify residents to prepare for evacuation. I make contact with several homeowners who are already packing up. I get to the last house on the road, no one home, decide to head back down, assist Plumas County Sheriff's with cutting locked gates, advises me to cross the highway and get into the 12 Mile Bar Road for evacuations.

At 4:15 PM, I am making my way into 12 Mile Bar, when I contact to order a Type 1 Wildland Fire Investigator for this incident. I find one of three homes in this area occupied, they are packing, the others are seasonal vacant.

At 4:50, I hear the fire is 80+ acres, both sides of the canyon, rapid spread, very aggressive, structures threatened, and evacuations are complete.

I made my way back down to the Virgilia Bridge area where LEO - where staged. At that time, Union Pacific Railroad Maintenance worker and his assistant, where already there too. advised me that they stated that they had been working in the area of the fire very recently. I know as one of the track maintenance workers that comes to my office to get a welding/cutting/grinding permit annually. and are known to me as the Union Pacific track maintenance workers responsible for the 2000 Storrie Fire, and the 2005 Bell Fire, both from track welding operations. When and I met eye to eye, he had a
“flushed” and “concerned” look on his face. interviewed and took his statement. I read the statement with present. ’s statement indicated that he had just replaced a section of track at approximately MP (milepost) 266.5, approximately 1 hour prior to the reported fire in that area. I then asked him if he used his tent for spark protection. stated it would have taken too long to set-up and did not use it; they had a very short track and time period in which to do the job.

At this point we, and myself, debated on the unlikely idea of getting safely into the Point of Origin, who would protect the scene, and who would go to the Union Pacific Portola Railroad yard to inspect the last east bound train that traveled the canyon prior to having track and time for the repair. It was decided that I would go to Portola and inspect the consist. and would post themselves at the Virginia Bridge railroad crossing. would be posted at the Rich Bar railroad crossing, the two only access points to the Point of Origin, and would be posted across the highway from the Point of Origin aided by a highway spotlight on the scene to assure no one contaminated the Point of Origin. Union Pacific Railroad personnel were advised no train traffic or crews where to be allowed on that section of track until our investigation was completed.

We had learned that one east bound train had been through the area, then had the track, when he was set-off, two west bound trains came through. The first west bound train saw the fire but did not stop. They advised the second west bound train who did stop on scene and attempt to take action.

At 6:27 PM, I was advised that Special Agent, from Sonora, would arrive tomorrow as the lead investigator. requested that we secure the fire origin overnight.

At 6:48, I traveled to the Union Pacific Railroad yard in Portola. On the way, I requested Wildland Fire Investigator to meet me at the yard to assist in the consist inspection. I arrived at the yard at 7:40 PM, and met with LEO who was holding the train from leaving the yard. advised me that when he arrived, a railroad worker had climbed on top of the locomotives, but appeared to not have done anything. He also stated that the crew had already gone to a motel for the evening. I had assist me in conducting the eductor tube inspections on the two UP
locotives. Both are General Motors EMD SD70 series locotives with turbo charged exhaust systems. Who ever boarded the locotives ahead of us already marked the exhaust stacks with the locotive number written in chalk. We used a signal mirror to light up the exhaust stack on #8565, and found it to be in good condition, no heavy build-up or missing chunks. We then went to #4100, and found it was very clean. We then checked the brake shoes and journal bearings on both of the locotives and found them to be in operable condition. We photographed the stacks and tubes. Arrived at 8:21 PM. A Union Pacific Railroad crew arrived from Roseville to do the same inspection for their agency. They stated that all checked out operable. and I went about checking every car in the consist for brake, bearing, or wheel defects. The UP crew did not do this, but headed back to Roseville. We found no defects in any of the cars components. At 10:46 PM, we all left the Portola Yard and returned to our stations.

July 30, 2008 - Wednesday

On my way down to the fire, I met with who was posted directly across the river on the highway from the Point of Origin. I noticed a piece of track laid out by the fire scene next to the tracks. Using my binoculars to look at that, I immediately noticed a fresh thermal weld just feet past the piece of track on the main track. I pointed this out to and advised her that this was the spot that had just welded in prior to the fire. From this vantage point, I could see that very little fire was south of this section of track, it had gone southwest to northeast with the winds in the afternoon as expected up the ridge and eventually spotted over to the other side of the canyon and highway. There was a tenth acre spot below the tracks also.

I met with Special Agent from the Stanislaus National Forest at the Rich Bar access point to the tracks. Union Pacific had offered to take us in, but the offer was denied in order to keep the scene protected. and I geared up and walked the tracks the approximate 1.6 miles into the Point of Origin.

At the new section of track, I pointed out the area that had replaced the day before and explained that every part of the process to do so is a serious fire hazard. I further advised that the track crew first sets out the gear while one of them sprays a fire retardant gel out 30 – 40 feet from the project in all directions to pre-treat the vegetation from sparks. A hydraulic saw is used to cut the rail in the two locations to replace
the track. In this case, one end was thermal welded back together and the other bolted. Then thermal weld end was grinded down to a smooth finish. They are required to use spark shields during the process and it is advisable to use a tent over the project in high winds. On the day of the fire, high winds were predicted, but there was not a Red Flag Warning. A tent was not used due to time constraints.

Our preliminary look at the fire scene suggested we should climb up onto the hillside along the south edge of the fire and read burn indicators to find a pattern. We took photographs and I kept the photo log as well as sketched the area where the photos were taken. We went up the south edge, leeward side of a small ridge, where burn indicators showed the fire backed into the wind a short distance. Above this area, and to the northeast, there is an area of vegetation on the windward side of a draw where we observed all indications of advancing and lateral fire. From this point, with all indicators headed uphill, we knew our origin was downhill. We then criss-crossed the fire area above the tracks reading the burn indicators back down to the tracks showing that the fire originated from the hillside directly next to the tracks. This location was in line with the work [redacted] had done.

We then read micro-indicators that lead us from the General Origin Area uphill, down to the Specific Origin Area of an area approximately 2’ wide by 7’ long. We gridded this area out into two 1’ by 7’ lanes and used a magnet to retrieve various metallic particles which were collected as evidence, and we both took turns scanning the lanes with a magnifying glass.

As seen earlier, there was a burned area below the tracks that was approximately one tenth to one quarter acre in size. There were power lines running below the fire, so we knew we would need to consider them in the investigation. [redacted] noticed two frayed wires on the top line of the 60Kv power line. The fray was south of the fire over an unburned area however it could be conceivable that given the time of day and potential wind direction, if an arc occurred there, sparks may be able to carry that far to where the fire was. We needed a PG&E representative to determine this for us.

We started to put burn indicator flags out at the top of the spot fire below the tracks between a cedar tree, doug fir tree, and some oaks where an obvious fire run had left angle of char macro indicators. The indicators on the ground showed this was an area of advancing and lateral fire.
The pressure was on us this entire day by Union Pacific Railroad personnel on scene and by radio to release the scene to train traffic and their investigator. They were advised that the Union Pacific investigator would not be allowed in until the U.S. Forest Service was confident they had concluded their investigation no matter how long it took. We negotiated with Union Pacific to resume train traffic only; no personnel were to enter the area, for overnight. It was getting late and we needed time to walk back out to our vehicles and did so.

July 31, 2008 - Thursday

I was tied up in town, did not have much time on scene this day, worked flags downhill in the spot below the tracks, all indicators suggested this was a spot fire from the main fire above the tracks.

I collected drill and grinding shavings from both ends of the track replacement.

When I returned to my office this evening, I found an email from Engine 25, the first unit on scene, with a cell phone photo of them arriving on scene. In the photo, it's clear that the fire was not below the tracks first.

August 1, 2008 - Friday

We continued to work the spot below the tracks in order to eliminate it as the origin. The Assistant United States Attorney for the U.S. Forest Service from Sacramento visited us by crossing the river. He wanted to see what we had found at the scene and to explain the welding process.

August 2, 2008 - Saturday

I and I made our way back into the scene by UP high-railer again. We brought sifting screens to go through the Point of Origin. The actual Point of Origin was brought down from the Specific Point of Origin by reading micro-indicators to an area of approximately one square foot. A magnet was used in this area again as we sifted layers of debris into a stepped down screen sieve. Each layer was observed individually by both of us as well as metallic particles collected on the magnet. Numerous pieces of
metallic particles were collected. This process took several hours. We caught a ride back out with the high-railer.

August 3, 2008 - Sunday

We did not enter the scene on this day, only office work catching up on notes and sketches.

August 4, 2008 - Monday

On this morning I met with [redacted] the track foreman for this area. He was disappointed that this sort of thing has happened again. [redacted] works for [redacted]. He stated that after the Bell Fire of 2005, he met with [redacted]. Together they determined what needed to be done to mitigate this fire potential from track maintenance. The answer was thought to have been the use of fire retardant gel sprayed 30-40' in the area to be worked on.

[redacted] and I again made our way into the scene by high-railer. We took plot samples near the Point of Origin. Plot #1 was in the burn above the POO. #2 was out of the burn above and south of the POO. #3 was south and same elevation of the POO. #4 was in the burn north and same elevation of the POO. We measured from the south cut on the rail to the hillside was 15' 9", and then from that line south to the POO was 5'.

On this day, I wondered why when it seems as though the welding crew was in such a hurry, did they take the time to use a cutting torch on the replaced piece of rail to make a full cut on it. This also just added a fourth ignition source to the project besides the act of using the pneumatic saw to cut the track, then the thermal weld, followed by the grinding of the new weld.

We did not go below the tracks this day. High-railed out for the night.

August 5, 2008 - Tuesday

First thing I called [redacted] with Pacific Gas & Electric, a troubleman I am familiar with in our area, to make a determination of the frayed wire on the 60 Kv power line near the spot fire below the tracks. [redacted] and I observed the fray with binoculars from across the scene on the highway. [redacted] stated that there is no way that fray could have caused a fire; it would have had to unravel for several feet in order to touch one of the other lines to
are. He also stated that there has been no tripped service in the canyon power system within days before or the day of the fire.

and I high-railed back into the Point of Origin. We used the sieves again to test numerous plots on the hillside both north and above the Point of Origin. Each plot was counted for metallic particles in comparison to those in the Point of Origin. Samples were collected for evidence.

I became curious as to where on the hillside in relation to the Point of Origin the area that was pre-treated with gel. I used a water bottle and my fingers to test rocks outside of the burn, it was evident where the gel had been applied and not. I then went into the burn and discovered that the majority of the area near the Point of Origin had been treated, but burned readily when dried out. The fire was at approximately 2:30 to 3:00 PM, high winds and high temperature; this would have dried the gel out pretty quickly.

We scanned the two rail tracks for a considerable distance on either side of the origin closely for any indication of arching that may have occurred, to eliminate that as a cause.

We then ended the day by going back down into the spot fire below the tracks and collected two grass pods at the bottom of the spot where that fire had originated from an ember of the fire above the tracks. These will be allowed to dry out of moisture and then sieved to eliminate any other cause than being a spot fire.

August 6, 2008 - Wednesday

Did not go on scene today, working on notes in the office.
Questions:

Why did [redacted] attempt this weld in such a short time frame not allowing for the use of the tent during a wind that must have exceeded 10 miles per hour at that time, and they did not stay for the minimum one hour required time frame after operations as stated on their welding permit.

Why did they spend the time to use a cutting torch on the removed rail, for what purpose?

When they spray the gel, is it done standing at the rail outward or actually climbing the hill, and insuring that the spray is getting behind, and around the rocks where vegetation is packed?

Where is the slag from the thermal weld?

Did [redacted] or [redacted] use the wind gauge [redacted] purchased for them?
June 29th thru July 29

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Fire Weather Forecast for: Quincy ECC Dispatch
National Weather Service - Reno, NV
Click on the link(s) below to go directly to the forecast segments
Plumas NF West of the Sierra Crest
Plumas NF East of the Sierra Crest

Dispatch Area Discussion...

346 PM PDT MON JUL 28 2008
DRY SOUTHWEST FLOW WILL CONTINUE WITH FAIR TO POOR HUMIDITY
RECOVERY AGAIN TONIGHT. THE MAIN STORM TRACK WILL REMAIN NORTH OF
THE REGION THIS WEEK... HOWEVER... LOCALLY GUSTY WINDS WILL OCCUR THE
REST OF THIS AFTERNOON AND EVENING... ESPECIALLY ALONG THE SIERRA
FRONT. DRY AND GUSTY CONDITIONS ARE EXPECTED AGAIN ON TUESDAY AS A
COLD FRONT BRUSHES THE AREA... WITH INCREASED HUMIDITY AFTER
TUESDAY.

Plumas NF West of the Sierra Crest
Forecast Issuance time: 310 PM PDT MON JUL 28 2008

TONIGHT...
SKY/WEATHER.............CLEAR. PATCHY SMOKE.
MIN TEMPERATURE........43-56.
24 HR TREND...........2 DEGREES COOLER.
MAX HUMIDITY............50-70 PERCENT.
24 HR TREND........... 3-6 PERCENT WETTER.
20-FOOT WINDS........
VALLEYS/LWR SLOPES...SOUTHWEST WINDS 5 TO 10 MPH IN THE EVENING
BECOMING DOWNSLOPE/DOWNVALLEY 3 TO 7
MPH.
RIDGES/UPR SLOPES....SOUTHWEST WINDS 7 TO 14 MPH. LOCAL GUSTS UP
TO 30 MPH.

LAL......................1.
CWR (>= 0.10 IN)......0.

TUESDAY...
SKY/WEATHER.............MOSTLY SUNNY. PATCHY SMOKE.
MAX TEMPERATURE........71-86.
24 HR TREND...........3 DEGREES COOLER.
MIN HUMIDITY............16-27 PERCENT.
24 HR TREND...........2 PERCENT WETTER.
20-FOOT WINDS........
VALLEYS/LWR SLOPES...UPSLOPE/UPVALLEY 3 TO 8 MPH BECOMING
SOUTHWEST 8 TO 16 MPH IN THE AFTERNOON.
RIDGES/UPR SLOPES....SOUTHWEST WINDS 5 TO 10 MPH INCREASING TO
13 TO 20 MPH WITH LOCAL GUSTS UP TO 30 MPH
IN THE AFTERNOON.

LAL......................1.
CWR (>= 0.10 IN)......0.

TUESDAY NIGHT...
SKY/WEATHER.............MOSTLY CLEAR. PATCHY SMOKE.
MIN TEMPERATURE........44-57.
MAX HUMIDITY............52-72 PERCENT.
20-FOOT WINDS........
VALLEYS/LWR SLOPES...SOUTH WINDS 7 TO 14 MPH IN THE EVENING
BECOMING DOWNSLOPE/DOWNVALLEY 3 TO 8 MPH.
RIDGES/UPR SLOPES....SOUTHWEST WINDS 10 TO 18 MPH. LOCAL GUSTS
UP TO 30 MPH IN THE EVENING.

LAL......................1.
CWR (>= 0.10 IN)......0.
WEDNESDAY...
SKY/WEATHER............MOSTLY SUNNY. PATCHY SMOKE.
MAX TEMPERATURE..........71-87.
MIN HUMIDITY.............15-26 PERCENT.
20-FOOT WINDS........
   VALLEYS/LWR SLOPES....UPSLOPE/UPVALLEY 3 TO 8 MPH BECOMING
                      SOUTHWEST 7 TO 14 MPH IN THE AFTERNOON.
   RIDGES/UPR SLOPES.....VARIABLE 4 TO 9 MPH BECOMING SOUTHWEST 10
                      TO 18 MPH IN THE AFTERNOON.
LAL.....................1.
CWR (>= 0.10 IN)........0.

EXTENDED...
.TUESDAY...CLEAR. PATCHY SMOKE. LOWS IN THE MID 40S TO MID 50S.
HIGHS IN THE 80S. SOUTHWEST WINDS 8 TO 15 MPH.
FRI DAY...CLEAR. PATCHY SMOKE. LOWS IN THE MID 40S TO MID 50S. HIGHS
IN THE MID 70S TO MID 80S. SOUTHEAST WINDS 8 TO 15 MPH.
SATURDAY...CLEAR. LOWS IN THE MID 40S TO MID 50S. HIGHS IN THE 80S.
NORTHEAST WINDS 8 TO 15 MPH.

Plumas NF East of the Sierra Crest
Forecast Issuance time: 300 PM PDT MON JUL 28 2008

TODAY...
SKY/WEATHER............CLEAR. HAZE AND AREAS OF SMOKE.
MIN TEMPERATURE........
   VALLEYS.............39-49...NEAR 35 IN SIERRA VALLEYS.
   MID SLOPE..........44-54.
   24 HR TREND........LITTLE CHANGE.
MAX HUMIDITY..........
   VALLEYS...........40-55%...NEAR 80% IN SIERRA VALLEYS.
   MID SLOPE.........25-35%.
   24 HR TREND........5% WETTER.
20-FOOT WINDS........
   VALLEYS/SLOPE....WEST WINDS 10 TO 15 MPH WITH GUSTS TO 25 MPH IN
                   THE EVENING BECOMING DOWNSLOPE 2 TO 6 MPH.
   RIDGE TOP.........SOUTHWEST WINDS 15 TO 20 MPH WITH GUSTS 25 TO
                    30 MPH DECREASING TO 6 TO 12 MPH AFTER MIDNIGHT.
HAINES INDEX.........5.
LAL.....................1.
CWR (>= 0.10 IN)......0.

TUESDAY...
SKY/WEATHER............SUNNY. AREAS OF SMOKE IN THE MORNING. HAZE
                      THROUGH THE DAY.
MAX TEMPERATURE........
   VALLEYS.............79-89.
   MID SLOPE..........74-84.
   24 HR TREND........LITTLE CHANGE.
MIN HUMIDITY..........
   VALLEYS...........10-20%.
   MID SLOPE.........11-21%.
   24 HR TREND........LITTLE CHANGE.
20-FOOT WINDS........
   VALLEYS/SLOPE....SOUTHWEST WINDS 6 TO 12 MPH INCREASING TO 15 TO
                   20 MPH WITH GUSTS 25 TO 30 MPH IN THE
                   AFTERNOON.
   RIDGE TOP.........SOUTHWEST WINDS 10 TO 15 MPH INCREASING TO 15
                   TO 25 MPH WITH GUSTS TO 40 MPH IN THE
                   AFTERNOON.
HAINES INDEX.........4.
LAL.....................1.
CWR (>= 0.10 IN)......0.
TUESDAY NIGHT...
SKY/WEATHER..........CLEAR. HAZE IN THE EVENING.
MIN TEMPERATURE.....
  VALLEYS..............35-45...NEAR 32 IN SIERRA VALLEYS.
  MID SLOPE...........40-50.
MAX HUMIDITY.......
  VALLEYS..............55-65%...NEAR 90% IN SIERRA VALLEYS.
  MID SLOPE...........30-40%.
20-FOOT WINDS.....
  VALLEYS/SLOPE....SOUTHWEST WINDS 10 TO 20 MPH WITH GUSTS 25 TO
                  30 MPH IN THE EVENING BECOMING DOWNSLOPE 2 TO 6
                  MPH.
  RIDGE TOP....SOUTHWEST WINDS 15 TO 25 MPH WITH GUSTS TO 40
               MPH DECREASING TO 6 TO 12 MPH AFTER MIDNIGHT.
HAINES INDEX........4.
LAL....................1.
CWR (>= 0.10 IN)....0.

WEDNESDAY...
SKY/WEATHER..........SUNNY.
MAX TEMPERATURE.....
  VALLEYS..............81-91.
  MID SLOPE...........75-85.
MIN HUMIDITY.......
  VALLEYS..............12-22%.
  MID SLOPE...........13-23%.
20-FOOT WINDS.....
  VALLEYS/SLOPE....UPSLOPE 3 TO 7 MPH BECOMING SOUTHWEST 10 TO 15
                   MPH IN THE AFTERNOON.
  RIDGE TOP....SOUTHWEST WINDS 10 TO 15 MPH. GUSTS 25 TO 30
               MPH IN THE AFTERNOON.
HAINES INDEX........4.
LAL....................1.
CWR (>= 0.10 IN)....0.

EXTENDED...
  WEDNESDAY NIGHT....CLEAR. LOWS 41-51. SOUTHWEST WINDS 6 TO 12 MPH.
  THURSDAY THROUGH SATURDAY....CLEAR. HIGHS 80-90. LOWS 38-48. WEST
                                WINDS 10 TO 15 MPH.
  SUNDAY THROUGH MONDAY....CLEAR. HIGHS 85-93. LOWS 42-52.

National Weather Service
Western Region Headquarters
125 South State Street
Salt Lake City, UT 84103
Tel:
Webmaster
Page last Modified: Update - 07/08/2003

National Weather Service Mission: “The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.”
Fire Weather Forecast for: Quincy ECC Dispatch
National Weather Service - Reno, NV
Click on the link(s) below to go directly to the forecast segments
Plumas NF West of the Sierra Crest
Plumas NF East of the Sierra Crest

Dispatch Area Discussion...

547 AM PDT MON JUL 28 2008
A SOUTHWEST WIND FLOW WILL CONTINUE WITH FAIR TO POOR HUMIDITY
RECOVERY AGAIN TONIGHT. THE MAIN STORM TRACK WILL REMAIN NORTH OF
THE REGION THIS WEEK. HOWEVER... LOCALLY GUSTY WINDS WILL OCCUR THIS
AFTERNOON AND EVENING OVER RIDGES. STRONGER WINDS ARE POSSIBLE ON
TUESDAY AS A COLD FRONT BRUSHES THE NORTHERN GREAT BASIN. SOME
IMPROVEMENT IN HUMIDITY IS EXPECTED ESPECIALLY WEST OF THE CREST.
HIGH PRESSURE AND DRIER CONDITIONS WILL RETURN MID TO LATE WEEK.

Plumas NF West of the Sierra Crest
Forecast Issuance time: 630 AM PDT MON JUL 28 2008

TODAY...
SKY/WEATHER.........SUNNY. HAZE AND AREAS OF SMOKE.
MAX TEMPERATURE....76-90.
  24 HR TREND.......2-4 DEGREES COOLER.
MIN HUMIDITY.......14-24 PERCENT.
  24 HR TREND.......LITTLE CHANGE TO 2 PERCENT WETTER.
20-FOOT WINDS....
  VALLEYS/LWR SLOPES...UPSLOPE/UPVALLEY 5 TO 10 MPH BECOMING
                     SOUTHWEST 12 TO 17 MPH IN THE AFTERNOON.
  RIDGES/UPR SLOPES...SOUTHWEST WINDS AROUND 8 MPH WITH LOCAL
                    GUSTS 11 TO 21 MPH SHIFTING TO THE SOUTH
                    12 TO 18 MPH WITH LOCAL GUSTS 25 TO 35 MPH
                    IN THE AFTERNOON.

LAI....................1.
CWR (> 0.10 IN).....0.

TONIGHT...
SKY/WEATHER...........CLEAR. PATCHY SMOKE.
MIN TEMPERATURE.....43-57.
  24 HR TREND.......LITTLE CHANGE.
MAX HUMIDITY.......48-69 PERCENT.
  24 HR TREND.......2-5 PERCENT WETTER.
20-FOOT WINDS....
  VALLEYS/LWR SLOPES...SOUTHWEST WINDS 9 TO 14 MPH.
  RIDGES/UPR SLOPES...SOUTHWEST WINDS 12 TO 17 MPH WITH LOCAL
                     GUSTS 27 TO 37 MPH.

LAI....................1.
CWR (> 0.10 IN).....0.

TUESDAY...
SKY/WEATHER...........MOSTLY SUNNY. PATCHY SMOKE.
MAX TEMPERATURE....70-85.
MIN HUMIDITY.......15-30 PERCENT.
20-FOOT WINDS....
  VALLEYS/LWR SLOPES...SOUTHWEST WINDS AROUND 8 MPH INCREASING TO
                     12 TO 18 MPH IN THE AFTERNOON.
  RIDGES/UPR SLOPES...WEST WINDS 8 TO 9 MPH SHIFTING TO THE
                     SOUTHWEST 13 TO 23 MPH IN THE AFTERNOON.
                     LOCAL GUSTS UP TO 35 MPH.

LAI....................1.
CWR (> 0.10 IN).....0.
EXTENDED...

WEDNESDAY...MOSTLY CLEAR. PATCHY SMOKE. LOWS 45 TO 55. HIGHS 75 TO 85. SOUTHWEST WINDS 10 TO 15 MPH LOWER ELEVATIONS...AND SOUTHWEST 15 TO 20 MPH UPPER SLOPES AND RIDGES.

THURSDAY...MOSTLY CLEAR. PATCHY SMOKE. LOWS 45 TO 55. HIGHS IN THE 80S. SOUTHWEST WINDS 10 TO 15 MPH.

FRIDAY...CLEAR. PATCHY SMOKE. LOWS 45 TO 55. HIGHS IN THE 80S. WEST WINDS AROUND 10 MPH.

Plumas NF East of the Sierra Crest
Forecast Issuance time: 730 AM PDT MON JUL 28 2008

TODAY...

SKY/WEATHER.............SUNNY. HAZE AND AREAS OF SMOKE.
MAX TEMPERATURE...........
VALLEYS.................79-89.
MID SLOPE..............73-83.
24 HR TREND..............LITTLE CHANGE.
MIN HUMIDITY...........
VALLEYS.................8-16%.
MID SLOPE..............10-20%.
24 HR TREND..............LITTLE CHANGE.
20-FOOT WINDS...........
VALLEYS/SLOPE...........UPSLOPE 3 TO 7 MPH BECOMING SOUTHWEST 10 TO 15 MPH WITH GUSTS 25 TO 30 MPH IN THE AFTERNOON.
RIDGE TOP..............SOUTHWEST WINDS 10 TO 15 MPH. GUSTS 25 TO 30 MPH IN THE AFTERNOON.

HAINES INDEX............4-5.
LAL......................1.
CWR (>= 0.10 IN)........0.

TONIGHT...

SKY/WEATHER.............CLEAR. HAZE AND AREAS OF SMOKE.
MIN TEMPERATURE...........
VALLEYS.................38-48.
MID SLOPE..............48-58.
24 HR TREND..............LITTLE CHANGE.
MAX HUMIDITY...........
VALLEYS.................73-83%.
MID SLOPE..............30-40%.
24 HR TREND..............5-8% WETTER.
20-FOOT WINDS...........
VALLEYS/SLOPE...........WEST WINDS 10 TO 15 MPH WITH GUSTS 25 TO 30 MPH IN THE EVENING BECOMING DOWNSLOPE 2 TO 6 MPH.
RIDGE TOP..............SOUTHWEST WINDS 10 TO 15 MPH. GUSTS 25 TO 30 MPH IN THE EVENING.

HAINES INDEX............4.
LAL......................1.
CWR (>= 0.10 IN)........0.

TUESDAY...

SKY/WEATHER.............SUNNY. AREAS OF SMOKE IN THE MORNING. HAZE THROUGH THE DAY.
MAX TEMPERATURE...........
VALLEYS.................77-87.
MID SLOPE..............71-81.
MIN HUMIDITY...........
VALLEYS.................12-22%.
MID SLOPE..............15-24%.
20-FOOT WINDS...........
VALLEYS/SLOPE...........UPSLOPE 3 TO 7 MPH BECOMING SOUTHWEST 15 TO 20 MPH WITH GUSTS 25 TO 30 MPH IN THE AFTERNOON.
RIDGE TOP..............SOUTHWEST WINDS 6 TO 12 MPH INCREASING TO 15 TO 25 MPH WITH GUSTS TO 35 MPH IN THE AFTERNOON.
HAINES INDEX........4-5.
LAL....................1.
CWR (>= 0.10 IN).....0.

EXTENDED...
.TUESDAY NIGHT...CLEAR. LOWS 38-48. WEST 10 TO 20 MPH BECOMING
DOWNSLOPE 2 TO 6 MPH.
.WEDNESDAY...CLEAR. HIGHS 77-87. LOWS 38-48. WEST WINDS 10 TO
20 MPH.
.THURSDAY THROUGH FRIDAY...CLEAR. HIGHS 84-93. LOWS 42-52. WEST
WINDS 10 TO 15 MPH.
.SATURDAY THROUGH SUNDAY...CLEAR. HIGHS 85-93. LOWS 42-52.

National Weather Service
Western Region Headquarters
125 South State Street
Salt Lake City, UT 84103
Tel:
Webmaster
Page last Modified: Update - 07/08/2008

National Weather Service Mission: "The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community."
Fire Weather Forecast for: Quincy ECC Dispatch
National Weather Service - Reno, NV
Click on the link(s) below to go directly to the forecast segments
Plumas NF West of the Sierra Crest
Plumas NF East of the Sierra Crest

Dispatch Area Discussion...

632 AM PDT TUE JUL 29 2008
...ISOLATED DRY THUNDERSTORMS THIS MORNING...
A DISTURBANCE MAY TRIGGER ISOLATED DRY THUNDERSTORMS THIS MORNING.
OTHERWISE A COLD FRONT PASSING MAINLY NORTH OF THE AREA WILL PRODUCE
LOCALY GUSTY WINDS THIS AFTERNOON AND EVENING. SOME IMPROVEMENT
IN HUMIDITY LEVELS WILL OCCUR BEHIND THE TROUGH TONIGHT AND WEDNESDAY.
HIGH PRESSURE WILL EXPAND SOME WESTWARD AND BRING WARMER AND CONTINUED
DRY CONDITIONS THE REST OF THE WEEK.

Plumas NF West of the Sierra Crest
Forecast issuance time: 930 AM PDT TUE JUL 29 2008

TODAY...
SKY/WEATHER............MOSTLY CLOUDY IN THE MORNING THEN BECOMING
                      MOSTLY SUNNY. PATCHY SMOKE.
MAX TEMPERATURE......74-89.
24 HR TREND.........2-4 DEGREES COOLER.
MIN HUMIDITY.........13-23 PERCENT.
24 HR TREND.........LITTLE CHANGE.
20-FOOT WINDS........
     VALLEYS/LWR SLOPES...UPSLOPE/UPVALLEY 5 TO 10 MPH BECOMING
                      SOUTHWEST 12 TO 17 MPH IN THE AFTERNOON.
     Ridges/UPR SLOPES...SOUTHWEST WINDS AROUND 8 MPH INCREASING TO
                      12 TO 18 MPH IN THE AFTERNOON. LOCAL GUSTS
                      UP TO 30 MPH.
LAL....................1.
CWR (> 0.10 IN).....0.

TONIGHT...
SKY/WEATHER............MOSTLY CLEAR. PATCHY SMOKE.
MIN TEMPERATURE......44-59.
24 HR TREND.........LITTLE CHANGE.
MAX HUMIDITY.........50-70 PERCENT.
24 HR TREND.........3 PERCENT WETTER.
30-FOOT WINDS........
     VALLEYS/LWR SLOPES...SOUTH WINDS 9 TO 14 MPH IN THE EVENING
                      BECOMING DOWNSLOPE/DOWNVALLEY 4 TO 9 MPH.
     Ridges/UPR SLOPES...SOUTHWEST WINDS 9 TO 14 MPH. LOCAL GUSTS
                      UP TO 30 MPH DECREASING TO 20 MPH AFTER
                      MIDNIGHT.
LAL....................1.
CWR (> 0.10 IN).....0.

WEDNESDAY...
SKY/WEATHER............MOSTLY SUNNY. PATCHY SMOKE.
MAX TEMPERATURE......71-89.
MIN HUMIDITY.........15-25 PERCENT.
20-FOOT WINDS........
     VALLEYS/LWR SLOPES...UPSLOPE/UPVALLEY 4 TO 9 MPH BECOMING
                      SOUTHWEST 10 TO 15 MPH IN THE AFTERNOON.
     Ridges/UPR SLOPES...VARIABLE 4 TO 9 MPH BECOMING SOUTHWEST 11
                      TO 16 MPH IN THE AFTERNOON.
LAL........................
CWR (>= 0.10 IN) ... 0.

EXTENDED...
.THURSDAY...CLEAR. PATCHY SMOKE. LOWS 45 TO 55. HIGHS 75 TO 85.
SOUTHWEST WINDS 10 TO 15 MPH.
.FRIDAY...CLEAR. PATCHY SMOKE. LOWS 45 TO 55. HIGHS 75 TO 85.
SOUTH WINDS 10 TO 15 MPH WITH LOCAL GUSTS AROUND 25 MPH.
.SATURDAY...CLEAR. LOWS 45 TO 55. HIGHS IN THE 80S. SOUTH WINDS
10 TO 15 MPH.

Plumas NF East of the Sierra Crest
Forecast Issuance time: 700 AM PDT TUE JUL 29 2008

TODAY...
SKY/WEATHER...........MOSTLY CLOUDY THEN BECOMING SUNNY. ISOLATED DRY
THUNDERSTORMS IN THE MORNING. AREAS OF SMOKE IN
THE MORNING.

MAX TEMPERATURE.......VALLEYS...........79-89.
                      MID SLOPE.......74-84.
                      24 HR TREND.......LITTLE CHANGE.

MIN HUMIDITY..........VALLEYS...........10-20%.
                      MID SLOPE.......14-22%.
                      24 HR TREND.......2-4% WETTER.

20-FOOT WINDS.........VALLEYS/SLOPE...SOUTHWEST WINDS 10 TO 15 MPH. GUSTS 25 TO 30
                      MPH IN THE AFTERNOON. GUSTS TO 35 MPH IN LOCAL
                      WIND PRONE AREAS.
                      RIDGE TOP.......SOUTHWEST WINDS 10 TO 15 MPH INCREASING TO 15
                      TO 25 MPH WITH GUSTS TO 40 MPH IN THE
                      AFTERNOON.

HAINES INDEX..........4-5.
LAI....................2.
CWR (>= 0.10 IN)......0.

TONIGHT...
SKY/WEATHER..........CLEAR.

MIN TEMPERATURE.......VALLEYS...........35-45.
                      MID SLOPE.......40-50.
                      24 HR TREND.......2-5 DEGREES COOLER.

MAX HUMIDITY.........VALLEYS...........75-85%
                      MID SLOPE.......35-45%
                      24 HR TREND.......10-15% WETTER.

20-FOOT WINDS........VALLEYS/SLOPE...SOUTHWEST WINDS 10 TO 15 MPH WITH GUSTS 25 TO
                      30 MPH IN THE EVENING BECOMING DOWNSLOPE 2 TO 6
                      MPH. LOCAL GUSTS TO 35 MPH IN THE EVENING.
                      RIDGE TOP.......SOUTHWEST WINDS 15 TO 25 MPH WITH GUSTS TO 40
                      MPH DECREASING TO 6 TO 12 MPH AFTER MIDNIGHT.

HAINES INDEX..........3-4.
LAI....................1.
CWR (>= 0.10 IN)......0.

WEDNESDAY...
SKY/WEATHER..........SUNNY.

MAX TEMPERATURE.......VALLEYS...........81-91.
                      MID SLOPE.......75-85.

MIN HUMIDITY.........VALLEYS...........14-22%.
                      MID SLOPE.......26-24%.

20-FOOT WINDS........
VALLEYS/SLOPE...UP SLOPE 3 TO 7 MPH BECOMING SOUTHWEST 10 TO 15 MPH IN THE AFTERNOON.
RIDGE TOP...SOUTHWEST WINDS 10 TO 15 MPH. GUSTS 25 TO 30 MPH IN THE AFTERNOON.

HAI N E S INDEX...4.
LAL...............1.
CWR (>= 0.10 IN)...0.

EXTENDED...
.WEDNESDAY NIGHT...CLEAR. LOWS 36-46. DOWNSLOPE 2 TO 6 MPH.
.THURSDAY THROUGH SATURDAY...CLEAR. HIGHS 80-90. LOWS 36-46. WEST WINDS 10 TO 15 MPH.
.SUNDAY THROUGH MONDAY...CLEAR. HIGHS 85-93. LOWS 42-52.

National Weather Service
Western Region Headquarters
125 South State Street
Salt Lake City, UT 84103
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Webmaster:
Page last Modified: Update - 07/08/2008

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Date: 08/03/2008

Fire behavior report for cause investigation.

Request by Special Agent

On Friday July 31, 2008 I was requested to look at the point of origin for the Rich fire by Special Agent The question she asked me was, if or how could the ignition that started the Rich fire on Tuesday July 29th have burned the area below the railroad tracks. I can only offer my opinions of what may have taken place.

Below are the conditions as far as the fire RAWS station to the SW of the fire.
Station: Area 69 ID# TR233 Name FRWS-05
Lat. 40.0331
Long. 121.235
Time: 1531
Temp: 83 degrees F.
RH: 18%
Wind Direction: SWS
Wind Speed 11 mph Gusting to 28 mph

A free burning fire burning under these conditions could produce fire behavior close to the Behave outputs shown below.

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<tr>
<th>Rate of spread (ch/hr)</th>
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<td>Heat per unit area (Btu/ft²)</td>
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<td>Fireline intensity (Btu/ft/s)</td>
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<td>Flame length (feet)</td>
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<td>Reaction intensity (Btu/ft²/sm)</td>
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<td>Probability of ignition (%)</td>
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Opinion #1 the fire began above the RR tracks and established a foot hold on the upper slope. As the burned up the slope it may have dislodged material on the hill side resulting in a rock slide down the hill carrying burning material down with it. This material would not have to be very large to be carried it across the RR tracks and down over the hill to the brush below.

Opinion #2 Fire was established above the RR tracks and during the fires spread up the slope it may have produced a fire brand that was lofted in to the air. As it was push up in to the convective column it may have been caught up in an eddy of air and deposited across the RR tracks starting a spot fire.

This part of the river/canyon is extremely narrow and as the up canyon winds increase during the day the air becomes constricted between the canyon walls, increasing the wind speeds considerably. This fact combined with the natural curving of the river bed and the broken topography along the banks of the river would add to the complexity of the wind
currents along this portion of the river. These complexities would include multiple wind eddies and vectors that could easily move fire brands in many directions. For example on Aug. 1, 2008 at 1530 hrs I took wind measurements along HWY 70. 1 mile below the point of origin I measured the wind speed at 4.2 mph along the highway. ½ mile further up the canyon it measured 4.3 mph. A couple hundred yards below the point of origin it was 14.3 mph. ½ mile further up canyon it was back down to 5.5 mph. This shows the variability in the wind speeds in different parts of the canyon. This takes place up and down the canyon, as the canyon narrows the wind speeds up, as it widens the wind slows down.

Battalion Chief
Prairie Division
Central Oregon Fire Mgt. Service
FBAN
PNW #2
Email: [redacted]
Phone: [redacted]
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2nd e-mail from PG&E.

From: [redacted] (Law) [mailto: [redacted]@PGE.COM]
Sent: Thursday, August 14, 2008 11:33 AM
To: [redacted] (USACE)
Cc: [redacted] (Law)
Subject: More Info re: Ridge Fire / SCADA Report
Importance: High

Here is the SCADA download for switch 55 and 57 which are installed at the Grays Flat distribution substation. The fire, as we understand it, started on July 29 at approximately 15:30. We had no activity-operations on either switch 55 or 57 during this timeframe. There is a reference at the bottom of the report to switch 59. 59 is not on the related transmission line.

If you want to arrange to have someone discuss the various reports with a PG&E representative, let me know. We will cooperate with your investigation. I will be on vacation next week and return on Tuesday, the 26th.

<<grays flat sw 55 and 57 open close.xls>>

PG&E Law Department
77 Beale Street, B30A
P.O. Box 7442
San Francisco, CA 94120
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<tr>
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</tr>
<tr>
<td>7/29/08</td>
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</table>
## Daily Event Report

**From:** 00:00 07/24/2008  
**To:** 23:59 07/29/2008  

### Events

#### Quincy

<table>
<thead>
<tr>
<th>Outages</th>
<th>08-0046709</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circuit</strong></td>
<td>102330401, GRAYS FLAT 401</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Unplanned</td>
</tr>
<tr>
<td><strong>Customers</strong></td>
<td>16</td>
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<tr>
<td><strong>Active</strong></td>
<td>NO</td>
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<tr>
<td><strong>Interval</strong></td>
<td>Sustained</td>
</tr>
<tr>
<td><strong>EquipID</strong></td>
<td>1791</td>
</tr>
<tr>
<td><strong>Equipment Type</strong></td>
<td>Fuse</td>
</tr>
<tr>
<td><strong>Equipment Condition</strong></td>
<td>Pole, Wood, Burned/flushed</td>
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<tr>
<td><strong>Crew Notified Time</strong></td>
<td>HWY 70 AT RUSH CREEK RD</td>
</tr>
<tr>
<td><strong>Equipment Address</strong></td>
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<tr>
<td><strong>Fault Location</strong></td>
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<tr>
<td><strong>Previous Switching</strong></td>
<td>DE-ENERGIZED FOR CDF</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Fire Activity</td>
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<tr>
<td><strong>Cause</strong></td>
<td>Equipment Failure/Involved, Fire, Forest</td>
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<tr>
<td><strong>Multi Damage Location</strong></td>
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<tr>
<td><strong>Counter Read</strong></td>
<td>RXHM</td>
</tr>
<tr>
<td><strong>FNL</strong></td>
<td>Last Updated By</td>
</tr>
<tr>
<td><strong>Outage Level</strong></td>
<td>Distribution Circuit</td>
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<tr>
<td><strong>End Date</strong></td>
<td>GPHS 07/31/08 15:32</td>
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### Actions

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<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Customers Restored</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/29/08 18:41</td>
<td>FUSE 1791 OPENED BY DE-ENERGIZING FOR CDF TO CONTAIN FIRE IN AREA</td>
<td>0</td>
</tr>
<tr>
<td>07/29/08 20:52</td>
<td>RXHM UPDATED NO ACCESS - Fire Activity</td>
<td>0</td>
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<tr>
<td>07/31/08 15:38</td>
<td>RPTS HOLDING OWN CLEARANCE FROM Q1 @ MTR# P8341 TO EOL</td>
<td>0</td>
</tr>
<tr>
<td>07/31/08 15:28</td>
<td>RPTS ALL WORK COMPLETE - FIRE DEPT HAS GIVEN OK TO RE-ENERGIZE LINE GIVEN OK TO CLO 1791 (JUMPERS TO REMAIN OPEN @ MTR# P8341) NO STRUCTURES STANDING</td>
<td>0</td>
</tr>
<tr>
<td>07/31/08 15:32</td>
<td>FUSE 1791 CLOSED OK BY</td>
<td>16</td>
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## Out of Service Equipment Incidents

### Change History

<table>
<thead>
<tr>
<th>EventID</th>
<th>Outage</th>
<th>Change Date</th>
<th>Change By</th>
<th>Text Change</th>
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</thead>
<tbody>
<tr>
<td>08-0037833</td>
<td>07/29/08 11:20</td>
<td>vwwl</td>
<td>Outage Action customers restored changed from 0 to 7028 for action on 06/12/08 14:43.</td>
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</tr>
<tr>
<td>08-0037833</td>
<td>07/29/08 11:20</td>
<td>vwwl</td>
<td>End Date/Time changed from 06/12/08 14:47 to 06/12/08 14:43.</td>
<td></td>
</tr>
<tr>
<td>08-0037833</td>
<td>07/29/08 11:20</td>
<td>vwwl</td>
<td>Outage Cause changed from Equipment Failure/Involved to Unknown Cause. Outage Supplemental changed from Fire, Forest to Patrol - not conducted.</td>
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<tr>
<td>08-0037835</td>
<td>07/29/08 11:23</td>
<td>vwwl</td>
<td>Outage Action customers restored changed from 0 to 9691 for action on 06/12/08 14:43.</td>
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<tr>
<td>08-0037835</td>
<td>07/29/08 11:23</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE PARADISE-BK2 OPENED &amp; CLOSED&quot; to &quot;TRANSMISSION OPER REPORTS SOURCE PARADISE-BK2 OPENED &amp; CLOSED&quot; for action on 06/12/08 14:43.</td>
<td></td>
</tr>
<tr>
<td>08-0037835</td>
<td>07/29/08 11:23</td>
<td>vwwl</td>
<td>Outage Cause changed from Equipment Failure/Involved to Unknown Cause. Outage Supplemental changed from Fire, Forest to Patrol - not conducted. End Date/Time changed from 06/12/08 14:47 to 06/12/08 14:43.</td>
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<tr>
<td>08-0037857</td>
<td>07/29/08 11:27</td>
<td>vwwl</td>
<td>Outage Supplemental changed from Fire, Forest to Other.</td>
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<tr>
<td>08-0039760</td>
<td>07/29/08 09:44</td>
<td>spkg</td>
<td>Outage Action description changed from &quot;CASE RPTS STILLWAT 1102/2 CLO OK C PHASE OC ALARM CTR OF 95 4 OPERATIONS AND LD OF 95 85 65 RESET TARGET OK&quot; to &quot;CASE RPTS STILLWAT 1102/2 CLO OK C PHASE OC ALARM CTR OF 95 4 OPERATIONS AND LD OF 95 85 65 RESET TARGET OK&quot; for action on 06/21/08 15:07.</td>
<td></td>
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<tr>
<td>08-0039780</td>
<td>07/29/08 11:33</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE RAWSON-BK1 OPENED &amp; CLOSED AGAIN&quot; to &quot;OPERATOR AT ROUND MOUNTAIN REPORTS SOURCE RAWSON-BK1 OPENED &amp; CLOSED AGAIN&quot; for action on 06/21/08 14:00.</td>
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<tr>
<td>08-0039790</td>
<td>07/29/08 11:34</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; to &quot;OPERATOR AT ROUND MOUNTAIN REPORTS SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:01.</td>
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<tr>
<td>08-0039793</td>
<td>07/29/08 11:49</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE TRES VIAS-BK1 OPENED &amp; CLOSED&quot; to &quot;OPER TABLE MOUNTAIN REPORTS SOURCE TRES VIAS-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:46.</td>
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<td>08-0039794</td>
<td>07/29/08 11:42</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE WHITMORE-BK1 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTED SOURCE WHITMORE-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:49.</td>
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<tr>
<td>08-0039797</td>
<td>07/29/08 11:44</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE CEDAR CREEK-BK1 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE CEDAR CREEK-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:49.</td>
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<td>08-0039806</td>
<td>07/29/08 09:37</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE PEACHTON-BK1 OPENED &amp; CLOSED&quot; to &quot;TABLE MTN OPERATOR REPORTS SOURCE PEACHTON-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:46.</td>
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<tr>
<td>08-0039810</td>
<td>07/29/08 11:45</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE OREGON TRAIL-BK2 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE OREGON TRAIL-BK2 OPENED &amp; CLOSED&quot; for action on 06/21/08 12:30.</td>
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<td>08-0039813</td>
<td>07/29/08 11:46</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE STILLWATER-BK1 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE STILLWATER-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 12:33.</td>
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<td>08-0039816</td>
<td>07/29/08 11:35</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE LOS MOLINOS-BK1 OPENED &amp; CLOSED&quot; to &quot;OPERATOR AT ROUND MOUNTAIN REPORTS SOURCE LOS MOLINOS-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:10.</td>
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<td>08-0039817</td>
<td>07/29/08 11:36</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE GERBER-BK1 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE GERBER-BK1 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:00.</td>
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<td>08-0039818</td>
<td>07/29/08 11:36</td>
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<td>Outage Action description changed from &quot;SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:00.</td>
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<td>08-0039821</td>
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<td>Outage Action description changed from &quot;SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:00.</td>
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<td>08-0039822</td>
<td>07/29/08 11:38</td>
<td>vwwl</td>
<td>Outage Action description changed from &quot;SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; to &quot;OPER AT ROUND MOUNTAIN REPORTS SOURCE TYLER-BK2 OPENED &amp; CLOSED&quot; for action on 06/21/08 14:00.</td>
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08-0039825 07/29/08 09:39 wwwl
Outage Action description changed from "SOURCE KANAKA-BK1 OPENED & CLOSED" to "TABLE MNT OPER REPORTS SOURCE KANAKA-BK1 OPENED & CLOSED" for action on 06/21/08 14:00.

08-0039886 07/29/08 11:47 wwwl
Outage Action description changed from "SOURCE JESSUP-BK1 OPENED & CLOSED PER RMCC" to "OPER AT ROUND MOUNTAIN REPORTS SOURCE JESSUP-BK1 OPENED & CLOSED PER RMCC" for action on 06/21/08 16:07.

08-0039892 07/29/08 11:48 wwwl
Outage Action description changed from "SOURCE OREGON TRAIL-BK2 OPENED & CLOSED PER RMCC" to "OPER AT ROUND MOUNTAIN REPORTS SOURCE OREGON TRAIL-BK2 OPENED & CLOSED FOR RMCC" for action on 06/21/08 13:40.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17269 CLOSE (OIS# 715010)" to "FUSE 17269 CLOSE (OIS# 715010)" for action on 07/13/08 19:35.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17267 CLOSE (OIS# 715010)" to "FUSE 17267 CLOSE (OIS# 715010)" for action on 07/13/08 19:20.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17135 CLOSE (OIS# 717906)" to "FUSE 17135 CLOSE (OIS# 717906)" for action on 07/13/08 21:48.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17135 OPEN (DEAD LINE)" to "FUSE 17135 OPEN (DEAD LINE)" for action on 07/13/08 20:30.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 2851 CLOSE (OIS# 711767)" to "FUSE 2851 CLOSE (OIS# 711767)" for action on 07/13/08 19:51.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 2803 CLOSE (OIS# 711767)" to "FUSE 2803 CLOSE (OIS# 711767)" for action on 07/13/08 21:30.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 1723 CLOSE (OIS# 711767)" to "FUSE 1723 CLOSE (OIS# 711767)" for action on 07/13/08 20:30.

08-0042690 07/29/08 00:12 rxhm
Outage Action date/time was changed from 07/08/08 07:36 to 07/08/08 07:24.

08-0042690 07/29/08 00:12 rxhm
Outage Action date/time was changed from 07/08/08 04:45 to 07/08/08 06:16.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 2715 CLOSE (OIS# 711767)" to "FUSE 2715 CLOSE (OIS# 711767)" for action on 07/13/08 19:59.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "SWITCH 5039 CLOSE (OIS# 711767)" to "SWITCH 5039 CLOSE (OIS# 711767)" for action on 07/13/08 19:45.

08-0042690 07/29/08 00:12 rxhm
Outage Action customers restored changed from 162 to 165 for action on 07/13/08 20:19.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "SWITCH 7137 CLOSE (OIS# 711767)" to "SWITCH 7137 CLOSE (OIS# 711767)" for action on 07/13/08 19:19.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 2715 CLOSE (OIS# 717906)" to "FUSE 2715 CLOSE (OIS# 717906)" for action on 07/13/08 21:17.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17271 CLOSE (OIS# 711767)" to "FUSE 17271 CLOSE (OIS# 711767)" for action on 07/13/08 20:40.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 17195 CLOSE (OIS# 715010)" to "FUSE 17195 CLOSE (OIS# 715010)" for action on 07/13/08 19:50.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 7029 CLOSE (OIS# 715010)" to "FUSE 7029 CLOSE (OIS# 715010)" for action on 07/13/08 20:12.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "FUSE 5267 CLOSE (OIS# 711767)" to "FUSE 5267 CLOSE (OIS# 711767)" for action on 07/13/08 22:08.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "LINE RECLUSER 1702 CLOSE (OIS# 717906)" to "LINE RECLUSER 1702 CLOSE (OIS# 717906)" for action on 07/13/08 20:19.

08-0042690 07/29/08 00:12 rxhm
Outage Action description changed from "LINE RECLUSER 1702 CLOSE VIA SCADA (OIS# 715010)" to "LINE RECLUSER 1702 CLOSE VIA SCADA (OIS# 715010)" for action on 07/09/08 19:46.

08-0042690 07/29/08 00:12 rxhm
Outage Action date/time was changed from 07/08/08 07:38 to 07/08/08 07:37.
Outage Cause changed from no value to Company Initiated. Outage Supplemental changed from no value to Planned, maintenance. End Date/Time changed from 07/29/08 10:45 to no value.

08-0042936 07/29/08 11:18 HWF2
Outage Action description changed from "FUSE 16635 CLOSE" to "FUSE 16635 CLOSED" for action on 07/29/08 10:45.

08-0042936 07/29/08 11:18 HWF2
Outage Action description changed from "FUSE 16635 OPEN" to "FUSE 16635 OPEN" for action on 07/29/08 09:05.

08-0043222 07/29/08 09:32 wwwl
Outage Action description changed from "OJ SE CORNER OF HALL & ORANGEWOOD OPEN" to "FRANKLIN OJ SE CORNER OF HALL & ORANGEWOOD DB-ENERGIZING TO N/O SW 6191" for action on 07/29/08 09:05.

08-0043222 07/29/08 17:46 wwwl
Outage Action description changed from "FRANKLIN REMOVED OJ SE CORNER OF
HALL & ORANGEWOOD* to "FRANKLIN CLOSED JUMPERS SE CORNER OF HALL & ORANGEWOOD ENERGIZING OK" for action on 07/29/08 15:22.

Outage Action description changed from "CJ SE CORNER OF HALL & ORANGEWOOD CLOSE* to "FRANKLIN REMOVED OSI CORNER OF HALL & ORANGEWOOD" for action on 07/29/08 15:22.

Outage Cause changed from no value to Company Initiated. Outage Supplemental changed from no value to Planned, maintenance.

Outage Action date/time was changed from 07/29/08 21:47 to 07/29/08 21:47. Outage Action description changed from "60 OPEN" to "GIVEN OK TO RT & CLO 7761 CC&L TESTING" for action on 07/29/08 21:47.

Outage Action description changed from "SWITCH 7761 CLOSE" to "SWITCH 7761 CLOSED OK BY ***" for action on 07/29/08 21:49.

Outage Action description changed from command (225-241) ALL FIREFIGHTERS ARE OUT OF AREA AND WE HAVE THE OK TO ENERGIZE LINE, *** REPORTS 2 BURNT UP POLES BEYOND MTR#94B821, GIVEN OK TO OPEN JUMPERS @ DOUBLE DEAD END POLE TAG CAUT 1 SPAN NORTH OF MTR#94B821" to "*** REPORTS PER CDF INCIDENT COMMAND (225-241) ALL FIREFIGHTERS ARE OUT OF AREA AND WE HAVE THE OK TO ENERGIZE LINE, *** REPORTS 2 BURNT UP POLES BEYOND MTR#94B821, GIVEN OK TO OPEN JUMPERS @ DOUBLE DEAD END POLE TAG CAUT 1 SPAN NORTH OF MTR#94B821" for action on 07/29/08 21:15.

Outage Action description changed from "LINE RECLOSER 9752 CLOSE" to "LINE RECLOSER 9752 CLOSED OK BY ***" for action on 07/29/08 03:09.

Outage Action description changed from "FUSE 7025 CLOSE" to "FUSE 7025 CLOSED OK BY ***" for action on 07/29/08 09:11.

Outage Cause changed from no value to Unknown Cause. Outage Supplemental changed from no value to Patrol - found nothing.

Outage Action description changed from "FUSE 7025 OPEN" to "FOUND NORTH OF 2 BLOWN @ FUSE 7025 GIVEN OK TO TEST WITH 25T" for action on 07/29/08 08:58.

Outage Cause changed from no value to Unknown Cause. Outage Supplemental changed from no value to Patrol - not conducted. End Date/Time changed from 07/29/08 09:57 to no value.

Outage Action description changed from "LINE RECLOSER 5462 OPEN" to "LINE RECLOSER 5462 OPENED LOCKED OUT UNK CAUSE" for action on 07/29/08 09:49.

Outage Action description changed from "LINE RECLOSER 5462 OPENED LOCKED OUT UNK CAUSE" to "RPTS FOUND LINE RECLOSER 5462 OPENED LOCKED OUT BY SGF CTR OF 289" for action on 07/29/08 09:49.

Outage Action description changed from "LINE RECLOSER 5462 CLOSE" to "CLOSED LINE RECLOSER 5462 TESTED OK WITH LOAD 38 15 53" for action on 07/29/08 09:57.

Outage Cause changed from no value to Animal. Outage Supplemental changed from no value to Squirrel.

Outage Action description changed from "FOUND METALLIC BALLONS ON PRIMARY WIRE IN FRONT OF 39 HIGHLANDS BLVD OROVILLE MTR 244N70" to "GLASS BELLS FLASHED - NEED TO DE-ENERGIZE TO REPAIR" for action on 07/29/08 15:16.

Outage Action date/time was changed from 07/29/08 16:20 to 07/29/08 15:53. Outage Action customers restored changed from 208 to 0 for action on 07/29/08 15:53. Outage Action description changed from "SWITCH 6385 CLOSE" to "REPORTED ON & MADE RUBBER GLOVE REPAIRS & COMPLETED BY 1613 HRS" for action on 07/29/08 15:53.

Outage Cause changed from no value to 3rd Party. Outage Supplemental changed from no...
<table>
<thead>
<tr>
<th>ID</th>
<th>Date/Time</th>
<th>Outage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-0046682</td>
<td>07/29/08 16:05</td>
<td>Outage Action date/time was changed from 07/29/08 15:51 to 07/29/08 15:16. Outage Action description changed from &quot;SWITCH 6585 OPEN&quot; to &quot;FOUND METALLIC BALLOONS ON PRIMARY WIRE IN FRONT OF 39 HIGHLANDS BLVD OROVILLE MTR 244N70. GLASS BELLS FLASHED - NEED TO DE-ENERGIZE TO REPAIR&quot; for action on 07/29/08 15:16.</td>
</tr>
<tr>
<td>08-0046709</td>
<td>07/29/08 21:01</td>
<td>Outage Action description changed from &quot;FUSE 1791 OPEN&quot; to &quot;FUSE 1791 OPENED BY PROD DE-ENERGIZING FOR CDF TO CONTAIN FIRE IN AREA&quot; for action on 07/29/08 18:41.</td>
</tr>
<tr>
<td>08-0046709</td>
<td>07/29/08 21:01</td>
<td>Outage Cause changed from no value to Equipment Failure/Involved. Outage Supplemental changed from no value to Fire, Forest.</td>
</tr>
<tr>
<td>08-0046709</td>
<td>07/31/08 16:34</td>
<td>Outage Action description changed from &quot;FUSE 1791 CLOSE&quot; to &quot;FUSE 1791 CLOSED OK BY RAP&quot; for action on 07/31/08 15:32.</td>
</tr>
<tr>
<td>08-0046717</td>
<td>07/30/08 00:03</td>
<td>Outage Action description changed from &quot;FUSE 537 OPEN&quot; to &quot;PARKER REPORTS #8 BLOWN @ FUCO 537 MADE PATROL NO CAUSE FOUND GIVEN OK TO CLOSE FOR TEST @ 25T&quot; for action on 07/29/08 23:38.</td>
</tr>
<tr>
<td>08-0046717</td>
<td>07/30/08 00:03</td>
<td>Outage Action description changed from &quot;FUSE 537 CLOSE&quot; to &quot;FUSE 537 CLOSED OK BY PARMER&quot; for action on 07/29/08 23:50.</td>
</tr>
<tr>
<td>08-0046717</td>
<td>07/30/08 00:03</td>
<td>Outage Cause changed from no value to Unknown Cause. Outage Supplemental changed from no value to Patrol - found nothing. End Date/Time changed from 07/29/08 23:50 to no value.</td>
</tr>
</tbody>
</table>
# TABLE MTN CONTROL CENTER

## MORNING REPORT

**Tuesday, 29 July, 2008**

### Fire Index

<table>
<thead>
<tr>
<th>Fire Index</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>

"N/A" indicates no fire index reported from CDF. X = Extreme Danger. V = Very High Danger (8-223-9490)

### No Interruptions

### SIGNIFICANT LOG ITEMS

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Location/ Requested By</th>
<th>Topic</th>
<th>SW LOG</th>
<th>Text</th>
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</table>

### Switch Logs Completed

<table>
<thead>
<tr>
<th>Log Number</th>
<th>Started</th>
<th>Completed</th>
<th>Line/Apparatus</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-2008-0575</td>
<td>07/29/08 0635</td>
<td>07/29/08 1646</td>
<td>Centerville-Table Mountain-Oroville Line None</td>
<td>TO REPLACE POLES DAMAGED IN FIRE.</td>
</tr>
<tr>
<td>TM-2008-0609</td>
<td>07/29/08 0844</td>
<td>07/29/08 1419</td>
<td>BOGUE SWITCH MOAS 119</td>
<td>MECHANISM SERVICE ON THE 119 MOAS MOTOR OPERATOR CONTROLLER</td>
</tr>
</tbody>
</table>

### WORK IN PROGRESS

<table>
<thead>
<tr>
<th>Log Number</th>
<th>Log Started</th>
<th>Scheduled To Be Completed</th>
<th>Line/Apparatus</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-2008-0631</td>
<td>7/29/08 0719</td>
<td>RAS SWITCHES AND RELAYS PER WIRE CHIEF REQUEST</td>
<td>WIRE CHIEF REQUEST FOR RAS SWITCHES &amp; 500KV RELAYS</td>
<td></td>
</tr>
<tr>
<td>TM-2008-0588</td>
<td>7/8/08 0639</td>
<td>7/30/08 1415</td>
<td>LOGAN CREEK Misc CUSTOMER SUB</td>
<td>FOR CUSTOMER WORK</td>
</tr>
</tbody>
</table>
# TABLE MTN CONTROL CENTER

## MORNING REPORT

**Tuesday, 29 July, 2008**

### WORK IN PROGRESS

<table>
<thead>
<tr>
<th>Log number</th>
<th>Log Started</th>
<th>Scheduled To Be Completed</th>
<th>Line/Apparatus</th>
<th>Purpose</th>
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</thead>
<tbody>
<tr>
<td>TM-2008-0541</td>
<td>7/29/08 0704</td>
<td>7/31/08 1400</td>
<td>TABLE MOUNTAIN Breaker 682</td>
<td>IBO257 550PM COIL REPLACEMENT.</td>
</tr>
<tr>
<td>TM-2008-0595</td>
<td>7/29/08 0935</td>
<td>7/29/08 1400</td>
<td>CARIBOU Relay CARIBOU-COLLINS PINE DIRECT TRANSFER TRIP</td>
<td>4 YR - LEVEL CHECKS AND FUNCTIONAL</td>
</tr>
</tbody>
</table>

### EQUIPMENT REQUIRING REPAIR — ADDED

<table>
<thead>
<tr>
<th>Report</th>
<th>Pin</th>
<th>Apparatus</th>
<th>Reason</th>
<th>Out Since</th>
<th>ETR</th>
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</thead>
</table>

### EQUIPMENT REQUIRING REPAIR — RESOLVED

<table>
<thead>
<tr>
<th>Out of Service</th>
<th>Pin</th>
<th>Apparatus</th>
<th>Reason</th>
<th>Resolution</th>
<th>Out Since</th>
</tr>
</thead>
</table>

**Incident Number: 2008005843**

<table>
<thead>
<tr>
<th>Received</th>
<th>Date</th>
<th>Time</th>
<th>Incident Address Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7/29/08</td>
<td>15:05:00</td>
<td>HWY 70/RICH BAR AREA</td>
</tr>
<tr>
<td>Dispatched</td>
<td>7/29/08</td>
<td>15:21:11</td>
<td>Belden</td>
</tr>
<tr>
<td>Enroute</td>
<td>7/29/08</td>
<td>15:47:32</td>
<td>PLUMAS</td>
</tr>
<tr>
<td>Arrived</td>
<td>7/29/08</td>
<td>15:34:20</td>
<td></td>
</tr>
<tr>
<td>Under Control Completed</td>
<td>7/29/08</td>
<td>15:09:58</td>
<td></td>
</tr>
</tbody>
</table>

**Signal**

- FIRE

**Reference Signal**

- FIRE

**Actual Signal**

- FIRE

**Citations Issued**

- [ ] Weapons
- [ ] How Received: E911

**DISPOSITIONS**

- [ ] CR
- [ ] BOOKING
- [ ] CITE
- [ ] 5150 EVAL
- [ ] CLOSED
- [ ] ACCIDT RPT
- [ ] PROP SHEET
- [ ] MP RPT
- [ ] CORONERS
- [ ] FOLLOW-UP

**NOTIFIED**

- [ ] DA
- [ ] M/H
- [ ] SOC SERV
- [ ] V/W
- [ ] PROBATION

**NOTES:**

78612 07/29/2008 15:08:32 XCoordinate = 40.01573700 YCoordinate = -121.173277

78612 07/29/2008 15:07:42 C/RPTS A FOREST FIRE. SHE IS PASSED TWAIN AT MILE MARKER 19.9
78612 07/29/2008 15:09:02 CALL TRANSF TO USFS
86512 07/29/2008 15:15:18 UPRR CALLED TO ADVISE THE FIRE WAS ON THE SOUTH SIDE OF THE TRACKS, BUT CLOSE TO THE TRACKS. NEAR TUNNEL #25. INFO PASSED ON TO USFS. RR HAS A TRAIN STOPPED WITH EMPLOYEES W/FIRE EXTINGUISHERS ON SCENE.
86512 07/29/2008 15:23:47 H16 IN THE AREA, ADVISED NO STRUCTURES NEAR THE FIRE. USFS AND ADMIN ON SCENE ADVISED POSSIBLE EVACUATIONS. ADVISED 1A4 ON SCENE USFS WAS STARTING EVACUATIONS ON THE HIGHWAY
86512 07/29/2008 15:41:45 PER 1A4 ON SCENE USFS WAS STARTING EVACUATIONS ON THE HIGHWAY
86512 07/29/2008 15:47:58 PER USFS DO EVACUATIONS ON RUSH CREEK RD
86512 07/29/2008 15:53:52 1A4 ADVISED 12 MILE BAR AREA THERE IS ONLY ONE HOUSE AND HE HAS EVACUATED THE ONLY HOMEOWNERS IN THE AREA. HE HAS THE WHOLE AREA ON THAT SIDE OF THE CANYON. HE WOULD LIKE THE OTHER UNITS TO FOCUS ON THE RUSH CREEK AREA.
86512 07/29/2008 16:02:51 1A1 ADVISED
86512 07/29/2008 16:17:09 PER 1A3 HARD CLOSEURE AT VIRGILIA AND RICHBAR. TELL UPRR TO GET THEIR HIGH RAILER OUT OF THE CANYON.

86512 07/29/2008 16:17:19 CHP ADVISED OF NEW HARD CLOSURES
86512 07/29/2008 16:25:25 INFO TO UPRR TO MOVE THE RAILER
86512 07/29/2008 16:31:59 UPRR CALLED BACK TO ADVISE THEY HAVE ADVISED THE HIGH RAILER TO MOVE
86512 07/29/2008 16:38:01 RESIDENTS AT 130 RUSH CRK RD ADVISED
86512 07/29/2008 16:40:00 RESIDENTS AT 440 RUSH CRK RD ADVISED
86512 07/29/2008 16:42:00 RESIDENTS AT 100 RUSH CRK RD ADVISED
86512 07/29/2008 16:43:00 RESIDENTS AT 910 RUSH CRK RD ADVISED
86512 07/29/2008 16:44:00 RESIDENTS AT 900 RUSH CRK RD ADVISED
86512 07/29/2008 16:45:00 RESIDENTS AT 910 RUSH CRK RD ADVISED
86512 07/29/2008 16:46:00 RESIDENTS AT 900 RUSH CRK RD ADVISED
1490, 1209, 1185, 1326, 992, 915, 910 BETWEEN 910 AND 40 WERE NOTIFIED BY USFS
2 REFUSALS AT #40
78612 07/29/2008 16:51:38: PER I/C ON SCENE THIS IS THE RUSH CREEK INCIDENT
86512 07/29/2008 17:12:50: MULT CALLS RECEIVED FROM CANYON DAM AREA- SVI SENT 1 UNIT
ADVISES SMOKE ONLY- REQUESTS WE DO NOT TRANSFER ANY MORE CALLS TO THEM FROM
THE CANYON DAM AREA. BG
86512 07/29/2008 17:19:05: 511 IS AVAILABLE FOR CALL OUT IF NEEDED.
86513 07/29/2008 17:57:50: 1A4 AND 304 ENROUTE TO 570 RUSH CREEK RD TO ENSURE ALL
PEOPLE ARE OUT OF THE RES
86513 07/29/2008 18:12:20: 1A4 RPT ALL PARTIES ARE OUT OF THAT RES
86512 07/29/2008 18:21:54: REFUSED AT 23759 HIGHWAY 70 (LOCATED OFF # 40 RUSH CREEK
ROAD ACCESS FROM RUSH CREEK ROAD)

86513 07/30/2008 0:19:39: 1DS AND 1S3 ARE EVACUATING A MALE SUBJECT FROM HIS
RESIDENCE RUSH CREEK RD 1 MILE UP THE DIRT RD FROM THE PAVEMENT. PER U SFS
SUBJECT NEEDS TO BE EVACUATED, THE FIRE WILL HIT THIS AREA BY MORNING
86513 07/30/2008 0:22:46: DEP/RPTS SUBJECT REFUSING EVACUATION AT THIS TIME. S/LEGAL
NAME IS: [REDACTED] INFO ON FILE
78612 07/30/2008 11:34:23: ALL RESIDENTS AT WOODY'S HOT SPRINGS AND CRYSTAL SPRINGS
NOTIFIED
INDIAN CREEK AND MAGGIES MAPLE LEAF ALSO NOTIFIED
BELDEN AND HOWELLS RD NOTIFIED
BOTH CAMPGROUNDS AT BUTT LAKE ADVISED
ROCKY POINT CAMPGROUND ALSO ADVISED
YELLOW CREEK CAMPGROUND ADVISED
ALL PPL FROM WOODY'S TO TWAIN THAT WERF HOME WERE NOTIFIED
CLEARED ALL THE WAY TO THE CARIBOU POWERHOUSE
OLD MILL RANCH RD NOTIFIED
ALL S'S NOTIFIED TO THE S END OF BUTT LAKE
TO THE VIRGILIA BRIDGE

[REDACTED] IS STAYING IN SENECA IF HE NEEDS TO LEAVE CALL [REDACTED]
95301 08/02/2008 7:05:50: PG&E RPTS FIRE HAS BUILT UP TOWARD WEST FACE OF BRIDGE
ABOVE BELDON DAM
R/P IS SEEING FLAMES NOW
INFO WAS GIVEN TO USFS

<table>
<thead>
<tr>
<th>Name:</th>
<th>Exp. No.:</th>
<th>ID Number</th>
<th>Party</th>
<th>Dispatched</th>
<th>Enroute</th>
<th>Arrived</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1D3</td>
<td>58483</td>
<td>J</td>
<td>11:41</td>
<td></td>
<td></td>
<td>17:07</td>
</tr>
<tr>
<td></td>
<td>305T</td>
<td>98191</td>
<td>B</td>
<td>11:42</td>
<td></td>
<td></td>
<td>17:07</td>
</tr>
<tr>
<td>UNITED STATES FOREST SERVICE,</td>
<td>1S1</td>
<td>59149</td>
<td>U</td>
<td>11:43</td>
<td></td>
<td></td>
<td>17:07</td>
</tr>
<tr>
<td></td>
<td>206</td>
<td>66693</td>
<td>B</td>
<td>11:41</td>
<td></td>
<td></td>
<td>17:07</td>
</tr>
<tr>
<td></td>
<td>1D6</td>
<td>66653</td>
<td>B</td>
<td>0:17</td>
<td></td>
<td>0:18</td>
<td>17:07</td>
</tr>
</tbody>
</table>
### WildCAD Incident Card - Plumas Emergency Communications Center: PNF 2008-784

*Rich* Vegetation Fire 07/29/2008 15:12:00

**Area 15**

### Reporting Party:
[Redacted]

### Initial Report On Conditions:
Fire near rr tracks 5 minutes east of Gansner Bar

### Initial Location:
Lat: 40°1'31.43", Lon: 121°8'18.23", T25N, R7E, Sec 13

### Actual Location (07/29/2008 17:24):
Lat: 40°0'40.68", Lon: 121°11'0.61", T25N, R7E, Sec 22

### Incident Notes:
Below Rich Creek Rd. on HWY 70. Per [Redacted]

### Dispatcher:
[Redacted]

### Status:
Open

### Job Codes:
P5ED7R 0511

### Web Comment:
P5ED7R 0511

### Timer:
Closed Timer for Resource 59CC

### Incident Commander(s):
07/29/2008 1748 xx Effective Operations - [Redacted]

### Resource Commitment

<table>
<thead>
<tr>
<th>Resource</th>
<th>Commit</th>
<th>Respond</th>
<th>On Scene</th>
<th>Avail Inc</th>
<th>Returning</th>
<th>Off Incident</th>
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</thead>
<tbody>
<tr>
<td>COZ 1</td>
<td>07/29 20:48</td>
<td>07/29 20:49</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>COZ 2</td>
<td>07/29 15:15</td>
<td>07/29 16:41</td>
<td></td>
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<tr>
<td>DOZ 3</td>
<td>07/29 15:15</td>
<td>07/29 16:41</td>
<td>07/29 18:13</td>
<td>07/30 18:12</td>
<td></td>
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<tr>
<td>PT-21</td>
<td>07/31 07:09</td>
<td>07/29 16:01</td>
<td></td>
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<tr>
<td>BC-21</td>
<td>07/29 16:01</td>
<td>07/29 16:01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH-2</td>
<td>07/29 16:30</td>
<td>07/29 16:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11E1</td>
<td>07/29 23:56</td>
<td>07/29 23:56</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>11E3</td>
<td>07/29 19:28</td>
<td>07/29 20:49</td>
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### Entry Date/Time

<table>
<thead>
<tr>
<th>Entry Date/Time</th>
<th>From</th>
<th>To</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/29/2008 15:16:33</td>
<td>h512</td>
<td>CA</td>
<td>coming off the complex, about a 15min wait, will be going toward the new fire soon</td>
</tr>
<tr>
<td>07/29/2008 15:23:00</td>
<td>E 25</td>
<td>Clint</td>
<td>approx 1 mile east of rich bar across river fire crowning out \ mm 20.50 in wilderness growing rapidly</td>
</tr>
<tr>
<td>07/29/2008 15:24:23</td>
<td>Div 2</td>
<td>Clint</td>
<td>need crews and helo access is limited</td>
</tr>
<tr>
<td>07/29/2008 15:24:47</td>
<td>Div 2</td>
<td>Clint</td>
<td>hold dozers</td>
</tr>
</tbody>
</table>

PNF 2008-784
Printed 09/02/2008 11:52
Page 1
<table>
<thead>
<tr>
<th>Entry Date/Time</th>
<th>From</th>
<th>To</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/29/2008 15:27:28</td>
<td>Cm</td>
<td>Clint</td>
<td>Engine 23 is actually E-21</td>
</tr>
<tr>
<td>07/29/2008 15:29:44</td>
<td>Div 2</td>
<td>Clint</td>
<td>priorities concentrate on structures keep fire S. of highway most stop train west bound</td>
</tr>
<tr>
<td>07/29/2008 15:39:15</td>
<td>CA</td>
<td>Clint</td>
<td>IC copied needs sending Chena IHC and TF 3630</td>
</tr>
<tr>
<td>07/29/2008 15:41:30</td>
<td>TF 3630</td>
<td>Clint</td>
<td>+ 45 ete</td>
</tr>
<tr>
<td>07/29/2008 15:44:03</td>
<td>Div 2</td>
<td>Clint</td>
<td>pass onto sheriffs evacuate rush creek road sheriffs Office advised</td>
</tr>
<tr>
<td>07/29/2008 15:49:15</td>
<td>CA</td>
<td>Clint</td>
<td>avail to invf or evac. if needed</td>
</tr>
<tr>
<td>07/29/2008 15:53:56</td>
<td>Div 2</td>
<td>Clint</td>
<td>send p 11 @ twain set up mob center lea block high gville Y 10 15 acres n+s of river North side wind driven south side is</td>
</tr>
<tr>
<td>07/29/2008 15:56:32</td>
<td>CA</td>
<td>Clint</td>
<td>wants to know if we have crews, I told him negative. he said we might want some.</td>
</tr>
<tr>
<td>07/29/2008 15:58:57</td>
<td>Div 2</td>
<td>Clint</td>
<td>resources on scene Div 2, B-21, P 23, P 24, E-20 21 25</td>
</tr>
<tr>
<td>07/29/2008 16:04:00</td>
<td>Div 2</td>
<td>Clint</td>
<td>talking to H-512 advise AA to come up on forest net.</td>
</tr>
<tr>
<td>07/29/2008 16:06:27</td>
<td>P 11</td>
<td>Clint</td>
<td>on scene</td>
</tr>
<tr>
<td>07/29/2008 16:10:18</td>
<td>Ch 2</td>
<td>Clint</td>
<td>tied in with div 2</td>
</tr>
<tr>
<td>07/29/2008 16:13:36</td>
<td>per</td>
<td>CA</td>
<td>will have an aa in the air that will have our forest net. up at 16:29</td>
</tr>
<tr>
<td>07/29/2008 16:14:02</td>
<td>IC</td>
<td>Clint</td>
<td>Dozer 2 and 3 head at staging passing lane at virginia turnoff</td>
</tr>
<tr>
<td>07/29/2008 16:15:38</td>
<td>IC</td>
<td>Clint</td>
<td>need a higher level invl level 1</td>
</tr>
<tr>
<td>07/29/2008 16:17:29</td>
<td>31</td>
<td>Clint</td>
<td>need engine 34 to head to bucks lake area for staging advise us of location upon arrival</td>
</tr>
<tr>
<td>07/29/2008 16:17:38</td>
<td>CA</td>
<td>Clint</td>
<td>here</td>
</tr>
<tr>
<td>07/29/2008 16:19:45</td>
<td>Chief 1</td>
<td>Clint</td>
<td>have chief 2 back to town</td>
</tr>
<tr>
<td>07/29/2008 16:22:16</td>
<td>Chief 1</td>
<td>Clint</td>
<td>if chief 2 is engaged keep him if not he needs to return Quincy</td>
</tr>
<tr>
<td>07/29/2008 16:30:31</td>
<td>Tahoe 621</td>
<td>Clint</td>
<td>&gt; Mohawk to cover</td>
</tr>
<tr>
<td>07/29/2008 16:31:28</td>
<td>CA</td>
<td>512</td>
<td>asking if they want a type 2 helo?</td>
</tr>
<tr>
<td>07/29/2008 16:31:44</td>
<td>512</td>
<td>CA</td>
<td>yes they want it and also ordering a type 1 limited</td>
</tr>
<tr>
<td>07/29/2008 16:33:34</td>
<td>Mt Hough</td>
<td>Clint</td>
<td>Fire is mushrooming out</td>
</tr>
<tr>
<td>07/29/2008 16:34:02</td>
<td>CA</td>
<td>NO</td>
<td>chester is half the distance to reload, get another airtanker</td>
</tr>
<tr>
<td>07/29/2008 16:35:12</td>
<td>CA</td>
<td>512</td>
<td>ordering another airtanker, also told him to relay that chester is closer for reload.</td>
</tr>
<tr>
<td>07/29/2008 16:35:21</td>
<td>Chief 2</td>
<td>Clint</td>
<td>on scene a staging</td>
</tr>
<tr>
<td>07/29/2008 16:35:44</td>
<td>Chief 2</td>
<td>Clint</td>
<td>&gt; Quincy</td>
</tr>
<tr>
<td>07/29/2008 16:37:08</td>
<td>Eng 34</td>
<td>Clint</td>
<td>&gt; Bucks Lake staging will advise of location</td>
</tr>
<tr>
<td>07/29/2008 16:50:18</td>
<td>IC</td>
<td>Clint</td>
<td>evacuations are complete</td>
</tr>
<tr>
<td>07/29/2008 16:50:18</td>
<td>Rich IC</td>
<td>CA</td>
<td>81 acres, rapid spread very agressive, structures threatened, evacuations are complete, parts of hwy 70. pass on too larry that canyon operations will be moving in there any moment.</td>
</tr>
<tr>
<td>07/29/2008 16:56:53</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/29/2008 16:59:03</td>
<td>AFF</td>
<td>CA</td>
<td>new canyon AA, AA is now 177A.B. leaving is AA 536</td>
</tr>
<tr>
<td>07/29/2008 16:59:39</td>
<td>L50</td>
<td>CA</td>
<td>over the coordination south of the lake no smoke at this time</td>
</tr>
<tr>
<td>07/29/2008 17:00:10</td>
<td>IS0</td>
<td>CA</td>
<td>proceed back to redding 19 min</td>
</tr>
<tr>
<td>07/29/2008 17:07:34</td>
<td>chief 1</td>
<td>CA</td>
<td>verifying name. Name is Rich.</td>
</tr>
<tr>
<td>07/29/2008 17:07:47</td>
<td>CA</td>
<td>Clint</td>
<td>will need resources, need operations to get there, need chief 2 to respond to location.</td>
</tr>
<tr>
<td>07/29/2008 17:09:00</td>
<td>E-34</td>
<td>Clint</td>
<td>@ Bucks lake staging available T6</td>
</tr>
<tr>
<td>07/29/2008 17:12:04</td>
<td>AA</td>
<td>Clint</td>
<td>T-05 proceed to fire to protect radio site</td>
</tr>
<tr>
<td>07/29/2008 17:14:03</td>
<td>CA</td>
<td>North ops</td>
<td>let them know that is happening with the tankers and lead plane L50.</td>
</tr>
<tr>
<td>07/29/2008 17:18:53</td>
<td>north ops</td>
<td>CA</td>
<td>need the lead plane, it will turn around to guide t 05.</td>
</tr>
<tr>
<td>07/29/2008 17:19:04</td>
<td>CA</td>
<td>North ops</td>
<td>verifying what I heard it was verified.</td>
</tr>
<tr>
<td>07/29/2008 17:23:26</td>
<td>IC</td>
<td>Clint</td>
<td>dozer 2 on scene dozer 3 on hwy 70 + 60 etc. requesting 1 more dozer.</td>
</tr>
<tr>
<td>07/29/2008 17:23:47</td>
<td>E 621</td>
<td>Clint</td>
<td>in quarters Grizzly</td>
</tr>
<tr>
<td>07/29/2008 17:23:55</td>
<td>AA</td>
<td>CA</td>
<td>contact with t 05 and lead 50.</td>
</tr>
<tr>
<td>Entry Date/Time</td>
<td>From</td>
<td>To</td>
<td>Details</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>----</td>
<td>---------</td>
</tr>
<tr>
<td>07/29/2008 17:25:07</td>
<td>CA</td>
<td>North ops</td>
<td>asked that tankers 93 and 12 to start loading and returning to the fire.</td>
</tr>
<tr>
<td>07/29/2008 17:25:45</td>
<td>North ops</td>
<td>dispatch</td>
<td>12 and 93 are refueling and will be up shortly.</td>
</tr>
<tr>
<td>07/29/2008 17:34:42</td>
<td>IC</td>
<td>Clint</td>
<td>team coming in Operations, IC Bea Day Bat 21 will be Div 21 this pm</td>
</tr>
<tr>
<td>07/29/2008 17:42:43</td>
<td>Doz 1</td>
<td>Clint</td>
<td>&gt; fire at +35</td>
</tr>
<tr>
<td>07/29/2008 17:43:55</td>
<td>CA</td>
<td>AA</td>
<td>ETA of T93 1748</td>
</tr>
<tr>
<td>07/29/2008 17:58:35</td>
<td>NOrth ops</td>
<td>CA</td>
<td>T12 at 1815</td>
</tr>
<tr>
<td>07/29/2008 17:59:46</td>
<td>CA</td>
<td>AA</td>
<td>relayed to him about t12</td>
</tr>
<tr>
<td>07/29/2008 18:02:10</td>
<td>CA</td>
<td>CA</td>
<td>chester at base-Ofs for staff the base. Gave her the fire code, told her to charge them to the RICH fire.</td>
</tr>
<tr>
<td>07/29/2008 18:13:54</td>
<td>Doz3</td>
<td>CA</td>
<td>still waiting for tact show on scene</td>
</tr>
<tr>
<td>07/29/2008 18:20:45</td>
<td>E-34</td>
<td>Clint</td>
<td>&gt; Mt Hough</td>
</tr>
<tr>
<td>07/29/2008 18:27:38</td>
<td>D398</td>
<td>JH</td>
<td>Agent from Sonora assigned as fire investigator. Will be driving to orovile tonight, be on scene in the morning</td>
</tr>
<tr>
<td>07/29/2008 18:29:46</td>
<td>D398</td>
<td>JH</td>
<td>Can you contact investigators on scene have secure the fire origin overnight. Cell phone number is Assigned to me</td>
</tr>
<tr>
<td>07/29/2008 18:30:14</td>
<td>jh</td>
<td>D398</td>
<td>will make the contacts and try to make that happen. then call back to verify</td>
</tr>
<tr>
<td>07/29/2008 18:32:02</td>
<td>jh</td>
<td>pt23</td>
<td>please try to make the origin secure and get back to me</td>
</tr>
<tr>
<td>07/29/2008 18:40:08</td>
<td>CA</td>
<td>AA</td>
<td>asking if he wants the heavy helo 45917 over the fire....no hold in Quincy</td>
</tr>
<tr>
<td>07/29/2008 18:47:35</td>
<td>Pat 24</td>
<td>Clint</td>
<td>Pat 11e3 LEO ml. huff</td>
</tr>
<tr>
<td>07/29/2008 18:48:12</td>
<td>Pat 23</td>
<td>Clint</td>
<td>&gt; UP portola yard inspection</td>
</tr>
<tr>
<td>07/29/2008 18:55:27</td>
<td>11E3</td>
<td>Clint</td>
<td>21 6L1 returning to site. if he has a sat phone please relay to me</td>
</tr>
<tr>
<td>07/29/2008 18:56:21</td>
<td>E-34</td>
<td>Clint</td>
<td>@ Mt. Hough</td>
</tr>
<tr>
<td>07/29/2008 19:16:12</td>
<td>Pat 21</td>
<td>Clint</td>
<td>contact 11E3 on P22 - P11 21 P23 asap</td>
</tr>
<tr>
<td>07/29/2008 19:16:20</td>
<td>cm</td>
<td>Clint</td>
<td>Div1 call Ch1 call at desk</td>
</tr>
<tr>
<td>07/29/2008 19:22:58</td>
<td>11E3</td>
<td>Clint</td>
<td>contact Div 2 check on night shift</td>
</tr>
<tr>
<td>07/29/2008 19:32:42</td>
<td>Doz 1</td>
<td>Clint</td>
<td>on scene</td>
</tr>
<tr>
<td>07/29/2008 19:36:18</td>
<td>CA</td>
<td>Clint</td>
<td>supplies dropped off &gt; Quincy</td>
</tr>
<tr>
<td>07/29/2008 19:40:32</td>
<td>Pat 23</td>
<td>Clint</td>
<td>@ U.P. Railyard</td>
</tr>
<tr>
<td>07/29/2008 19:46:48</td>
<td>CA</td>
<td></td>
<td>Per AA ordered H 63A, he was diverted from the BTU lightning complex. Between there AOBs and our AA it was ordered. Chico agreed to keep it on there all no number will be granted from our fire.</td>
</tr>
<tr>
<td>07/29/2008 20:00:55</td>
<td>CA</td>
<td></td>
<td>do you know where HT-742 came from? negative he doesn't know where it came from. Per he came from the telegraph fire.</td>
</tr>
<tr>
<td>07/29/2008 20:05:28</td>
<td>AOB</td>
<td>CA</td>
<td>would like to know if there are problems? Yes, will not let me know when Aircraft have ETA's and are being released, will not listen to where to load out of, committed aircraft we did not know of.</td>
</tr>
<tr>
<td>07/29/2008 20:05:58</td>
<td>CH</td>
<td>CA</td>
<td>if we need the base up and running call her @</td>
</tr>
<tr>
<td>07/29/2008 20:07:09</td>
<td>P24</td>
<td>Clint</td>
<td>Prevent 2222 on scene</td>
</tr>
<tr>
<td>07/29/2008 20:10:26</td>
<td>Ch 2</td>
<td>Clint</td>
<td>1 &gt; ICP</td>
</tr>
<tr>
<td>07/29/2008 20:17:17</td>
<td>A</td>
<td>CA</td>
<td>releasing 58AH from the incident</td>
</tr>
<tr>
<td>07/29/2008 20:21:31</td>
<td>P 11</td>
<td>Clint</td>
<td>@ Portola U.P. Yard</td>
</tr>
<tr>
<td>07/29/2008 20:22:24</td>
<td>A</td>
<td>CA</td>
<td>58HA has been released back to lassen</td>
</tr>
<tr>
<td>07/29/2008 20:26:50</td>
<td>P22</td>
<td>Clint</td>
<td>on scene w/ 11e3 protecting POO for evening</td>
</tr>
<tr>
<td>07/29/2008 20:56:05</td>
<td>FS2</td>
<td>Clint</td>
<td>back quarters</td>
</tr>
<tr>
<td>07/29/2008 21:10:45</td>
<td>Prev 2222</td>
<td>Clint</td>
<td>released &gt; susanville will contact home unit</td>
</tr>
<tr>
<td>07/29/2008 21:11:57</td>
<td>Engine 13</td>
<td>Clint</td>
<td>+ captain 13 back frenchman work center</td>
</tr>
<tr>
<td>07/29/2008 21:52:38</td>
<td>Wg</td>
<td>Clint</td>
<td>Released return Q</td>
</tr>
<tr>
<td>07/29/2008 21:52:51</td>
<td>C-512</td>
<td>Wg</td>
<td>Released rtm Q</td>
</tr>
<tr>
<td>Entry Date/Time</td>
<td>From</td>
<td>To</td>
<td>Details</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>07/29/2008 22:05:26</td>
<td>E-9902</td>
<td>Wg</td>
<td>Released rtm Q</td>
</tr>
<tr>
<td>07/29/2008 22:05:50</td>
<td>E-20</td>
<td>Wg</td>
<td>Released rtm Grmvl</td>
</tr>
<tr>
<td>07/29/2008 22:08:58</td>
<td>E-11</td>
<td>Wg</td>
<td>Released rtm Mohawk</td>
</tr>
<tr>
<td>07/29/2008 22:15:34</td>
<td>E-25</td>
<td>Wg</td>
<td>Released rtm Gansner</td>
</tr>
<tr>
<td>07/29/2008 22:20:51</td>
<td>E-33</td>
<td>Wg</td>
<td>Released rtm Brush Cr.</td>
</tr>
<tr>
<td>07/29/2008 22:26:12</td>
<td>TAHOE ST</td>
<td>CA</td>
<td>Called asked where to go? told them to go to ICP</td>
</tr>
<tr>
<td>07/29/2008 22:26:29</td>
<td>Pat11</td>
<td>CA</td>
<td>i/s &gt; quincxy &gt; oos</td>
</tr>
<tr>
<td>07/29/2008 22:28:50</td>
<td>e21</td>
<td>jh</td>
<td>i/q mt, hough</td>
</tr>
<tr>
<td>07/29/2008 22:29:10</td>
<td>9902</td>
<td>jh</td>
<td>i/q quincy</td>
</tr>
<tr>
<td>07/29/2008 22:29:21</td>
<td>hks12</td>
<td>jh</td>
<td>i/q quincy</td>
</tr>
<tr>
<td>07/29/2008 22:38:15</td>
<td>e20</td>
<td>jh</td>
<td>i/q greenville</td>
</tr>
<tr>
<td>07/29/2008 22:46:57</td>
<td>PT-23</td>
<td>Wg</td>
<td>Finished with locomotive. 11E1 and himself returning. If UP calls the engine can be released</td>
</tr>
<tr>
<td>07/29/2008 23:03:41</td>
<td>E-11</td>
<td>Wg</td>
<td>In Qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:05:38</td>
<td>ST-4660C</td>
<td>Wg</td>
<td>2246 hours - In Q going to ICP bedding down on at SO 0800</td>
</tr>
<tr>
<td>07/29/2008 23:16:23</td>
<td>PT-11</td>
<td>Wg</td>
<td>In Q out of Service</td>
</tr>
<tr>
<td>07/29/2008 23:18:12</td>
<td>PT-23</td>
<td>Wg</td>
<td>In Qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:18:26</td>
<td>DV-2</td>
<td>Wg</td>
<td>In Qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:18:39</td>
<td>E-25</td>
<td>Wg</td>
<td>In Qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:41:01</td>
<td>PT-22</td>
<td>Wg</td>
<td>12 mile Bar road is not totally evacuated. Relay this to IC Bea Day.</td>
</tr>
<tr>
<td>07/29/2008 23:41:25</td>
<td>Wg</td>
<td>IC</td>
<td>Relay evac info from PT-22</td>
</tr>
<tr>
<td>07/29/2008 23:41:41</td>
<td>BC-24</td>
<td>Wg</td>
<td>In Qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:59:23</td>
<td>E-33</td>
<td>Wg</td>
<td>In qtrs out of service</td>
</tr>
<tr>
<td>07/29/2008 23:59:42</td>
<td>11E1</td>
<td>Wg</td>
<td>Down canyon for evening</td>
</tr>
<tr>
<td>07/30/2008 00:58:35</td>
<td>Wg</td>
<td>IC</td>
<td>IC Hoff NW Team traveling today</td>
</tr>
<tr>
<td>07/30/2008 07:07:16</td>
<td>B-2121</td>
<td>Wg</td>
<td>off incident &gt; quarters</td>
</tr>
<tr>
<td>07/30/2008 07:34:24</td>
<td>11E1</td>
<td>Wg</td>
<td>get ahold 11E1 mt Hough Office.</td>
</tr>
<tr>
<td>07/30/2008 07:41:04</td>
<td>Eng 34</td>
<td>Wg</td>
<td>avail through ground support</td>
</tr>
<tr>
<td>07/30/2008 08:21:50</td>
<td>AA</td>
<td>CA</td>
<td>Use national for a call and then switch to forest net 15 minutes out.</td>
</tr>
<tr>
<td>07/30/2008 08:34:49</td>
<td>AA</td>
<td>CA</td>
<td>letting me know that we have positive contact over FF national. If i need to contact him call him on that for ordering over hough</td>
</tr>
<tr>
<td>07/30/2008 09:18:33</td>
<td>globe ihc</td>
<td>CA</td>
<td>asking where to report? Told them to go out to the feather river college</td>
</tr>
<tr>
<td>07/30/2008 09:20:45</td>
<td>P 24</td>
<td>Clint</td>
<td>D398 on scene fire tying in w/ P 23 hiking into start area.</td>
</tr>
<tr>
<td>07/30/2008 09:31:09</td>
<td>11E1</td>
<td>Clint</td>
<td>11E1</td>
</tr>
<tr>
<td>07/30/2008 09:57:19</td>
<td>doz 3</td>
<td>Clint</td>
<td>avail SO</td>
</tr>
<tr>
<td>07/30/2008 09:59:28</td>
<td>P-11</td>
<td>Clint</td>
<td>&gt; fire</td>
</tr>
<tr>
<td>07/30/2008 10:22:35</td>
<td>P-23</td>
<td>Clint</td>
<td>can U.P. invf have access to Point of origin? per 23 neg at this time possibly this afternoon. Will advise later, still hiking in to point of origin. It may be later this afternoon before U.P. can access scene when released by on scene ag</td>
</tr>
<tr>
<td>07/30/2008 10:28:45</td>
<td>P-22</td>
<td>Clint</td>
<td>Greenville</td>
</tr>
<tr>
<td>07/30/2008 10:30:21</td>
<td>cm</td>
<td>P-23</td>
<td>please make us aware when u.p. invf can investigate. as soon as possible</td>
</tr>
<tr>
<td>07/30/2008 10:31:57</td>
<td>p-24</td>
<td>Clint</td>
<td>relay p-23 will advise when ok for u.p. invf can enter p.o.c.</td>
</tr>
<tr>
<td>07/30/2008 11:01:22</td>
<td>AOBS</td>
<td>CA</td>
<td>need to get two A#. for two TFR's one to modify the canyon and another to do the RICH. Deen has been in contact with North Ops they have all the info to make one. I called staff at North ops and asked if thats for sure, and she says yes</td>
</tr>
<tr>
<td>07/30/2008 11:01:40</td>
<td>cont.</td>
<td>CA</td>
<td>they have everything they need just need two A##. i did it in ross</td>
</tr>
<tr>
<td>07/30/2008 11:04:19</td>
<td>CA</td>
<td>AOBS</td>
<td>per [redacted] they are getting us managers for the type one helo's</td>
</tr>
<tr>
<td>07/30/2008 11:12:49</td>
<td>AOBS</td>
<td>CA</td>
<td>Airport is closed to public use.</td>
</tr>
<tr>
<td>07/30/2008 11:13:38</td>
<td>P-24</td>
<td>Clint</td>
<td>released &gt; Mt. Hough</td>
</tr>
<tr>
<td>07/30/2008 11:18:57</td>
<td>Div 2</td>
<td>Clint</td>
<td>&gt; Rich bar area</td>
</tr>
<tr>
<td>Entry Date/Time</td>
<td>From</td>
<td>To</td>
<td>Details</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>-----</td>
<td>---------</td>
</tr>
<tr>
<td>07/30/2008 11:19:45</td>
<td>8CC</td>
<td>CA</td>
<td>telling us he will come over national. Letting him know that the airport is closed to the public and that there will be a new TFR for the RICH fire and modifying the canyon.</td>
</tr>
<tr>
<td>07/30/2008 11:20:00</td>
<td>Neil</td>
<td>CA</td>
<td>having expanded do the oil's for the helo managers for the type 1</td>
</tr>
<tr>
<td>07/30/2008 11:27:48</td>
<td>11E1</td>
<td>Clint</td>
<td>U.P. will be advised by 11E1, if they have any problems. meet him at Virginia bridge</td>
</tr>
<tr>
<td>07/30/2008 11:30:43</td>
<td>P-23</td>
<td>Clint</td>
<td>agrees w/ 11E1 they will need to wait.</td>
</tr>
<tr>
<td>07/30/2008 11:46:27</td>
<td>11E3</td>
<td>Clint</td>
<td>can you contact pic from so. have them contact me on cell. called lee ann taylor she will call</td>
</tr>
<tr>
<td>07/30/2008 11:57:47</td>
<td>no ops</td>
<td>CA</td>
<td>is off big hill- quincy-H-485CC</td>
</tr>
<tr>
<td>07/30/2008 12:06:31</td>
<td>11E1</td>
<td>Clint</td>
<td>released &gt; portola</td>
</tr>
<tr>
<td>07/30/2008 12:19:00</td>
<td>Pat 24</td>
<td>Clint</td>
<td>in quarters oos</td>
</tr>
<tr>
<td>07/30/2008 12:27:20</td>
<td>CA</td>
<td>8CC</td>
<td>10 minutes out from Quincy helibase, called the helibase and let them know, also the tahoe knows that we have them</td>
</tr>
<tr>
<td>07/30/2008 13:26:21</td>
<td>11E3</td>
<td>Clint</td>
<td>10/10</td>
</tr>
<tr>
<td>07/30/2008 14:09:05</td>
<td>Bat 24</td>
<td>Clint</td>
<td>will be meadow valley area for a while</td>
</tr>
<tr>
<td>07/30/2008 14:14:47</td>
<td>45CH</td>
<td>Clint</td>
<td>48 miles to S. of quincy ele +21</td>
</tr>
<tr>
<td>07/30/2008 20:27:46</td>
<td>Wg</td>
<td>PT-21</td>
<td>Rtm Greenville</td>
</tr>
<tr>
<td>07/30/2008 20:27:57</td>
<td>Wg</td>
<td>PT-23</td>
<td>Rtm Quincy</td>
</tr>
<tr>
<td>07/30/2008 20:28:10</td>
<td>Wg</td>
<td>PT-11</td>
<td>Rtm Quincy</td>
</tr>
<tr>
<td>07/30/2008 20:43:54</td>
<td>E-24</td>
<td>Wg</td>
<td>Out of service Portola on tomorrow 0800</td>
</tr>
<tr>
<td>07/30/2008 04:30:43</td>
<td>11E1</td>
<td>Wg</td>
<td>10-8 to incident</td>
</tr>
<tr>
<td>07/30/2008 07:09:27</td>
<td>PT-21</td>
<td>Wg</td>
<td>In service to the canyon</td>
</tr>
<tr>
<td>07/30/2008 09:26:32</td>
<td>Jh</td>
<td>Jh</td>
<td>is the federal investigator, phone #</td>
</tr>
<tr>
<td>07/30/2008 17:38:04</td>
<td>11e1</td>
<td>Jh</td>
<td>myself, pt23, pt21 are leaving the rich fire enroute to quincy, also the tracks are clear to union pacific railroad traffic</td>
</tr>
<tr>
<td>07/30/2008 18:02:54</td>
<td>AA</td>
<td>CA</td>
<td>wants two tankers one lead plane</td>
</tr>
<tr>
<td>07/30/2008 18:03:21</td>
<td>North ops</td>
<td>CA</td>
<td>T-05 eta 1820 T 45 ETA 1820 Lead Plane L5-0</td>
</tr>
<tr>
<td>07/30/2008 18:03:36</td>
<td>AA</td>
<td>CA</td>
<td>Air is clear for tankers, <em>otherwise I wouldn't have ordered them</em></td>
</tr>
<tr>
<td>07/30/2008 18:04:12</td>
<td>CA</td>
<td>AA</td>
<td>trying to tell him ETA's for all three ships, no contact tired multiple times on cirm tf plk.</td>
</tr>
<tr>
<td>07/30/2008 18:26:07</td>
<td>AA</td>
<td>CA</td>
<td>43 dropped will be load and return</td>
</tr>
<tr>
<td>07/30/2008 18:29:58</td>
<td>AA</td>
<td>CA</td>
<td>T-05 load and return out of chico</td>
</tr>
<tr>
<td>07/30/2008 19:16:47</td>
<td>11E1</td>
<td>Wg</td>
<td>10-10</td>
</tr>
<tr>
<td>07/30/2008 19:23:05</td>
<td>T-43</td>
<td>CA</td>
<td>&gt; Redding Hold</td>
</tr>
<tr>
<td>07/30/2008 19:26:14</td>
<td>CM</td>
<td>log</td>
<td>T-43 +22 eta Redding</td>
</tr>
<tr>
<td>08/02/2008 06:47:28</td>
<td>PG&amp;E</td>
<td>Wg</td>
<td>911-RPG&amp;E at Belden Dam (Canbou). Sees more activity on the rich fire above the dam than usual.</td>
</tr>
<tr>
<td>08/02/2008 07:01:15</td>
<td>Bear Lodge</td>
<td>Wg</td>
<td>In Service Mohawk</td>
</tr>
</tbody>
</table>

**VOR**
- 33m 048° CIC: CHICO
- 49m 073° RBL: RED BLUFF
- 50m 235° AHC: AMDEE (HER
- 56m 002° MYV: MARYSVILLE
- 69m 102° RDD: REDDING

**ATB**
- 17m 154° O05: CHESTER AIR
- 34m 043° CIC: CHICO AIR T
- 48m 333° O17: GRASS VALLEY
- 59m 102° RDD: REDDING AIR
- 64m 271° 4SD: STEAD AIR T

**Helibase**
- 11m 267° QCY: QUINCY HELI
- 18m 154° CIR: CHICO HELI
- 35m 171° BOG: BOGARD HELI
- 59m 063° VNI: VINA HELI
- 59m 103° RDD: REDDING
Initial Report On Conditions
Fuels: Acres: W Speed: Dir: Slope: Aspect:
Spread: Complexity: Jurisdiction:
Structures:
Access:
Hazards:

Fire Report Information
Fire #: 84 SubUnit: 52 SubUnit #: 43
Acres: 3955 Size Class: F Elevation: 0 Land Status:
Contain: Control: Out:
Statistical Cause: Miscellaneous
INCIDENT REPORT

522708 15 12 3 1.5 MILES EAST OF RICH BAR

381050

INCIDENT LOCATION

05 1152 CA 63 NES
40 01 121 121 10 03

56

WARNING

-s-36 CFR 261.5(6)

SUBJECT

UNION PACIFIC RAILROAD

1400 DOUGLAS STREET
OMAHA NE 68179 (402) 544-5000
On July 28, 2006, representatives from Union Pacific Railroad Maintenance of Way for the Feather River Canyon met with Plumas NF representative, Battalion Chief for Fire Prevention on the Beckworth Ranger District at UPRR’s Keddie Office. In attendance were:
- Maintenance of Way Supervisor
- Welders Helper
- Welder
- PNF

The Plumas NF utilizes the new Project Activity Level (PAL) for all industrial operations on National Forest Land. Maintenance of Way operations grinding and cutting operations fall in to the area where there would be time periods that no cutting would be allowed. Contacted Forest Fire staff Officer regarding the impacts, and it was assigned to as a subject matter specialist to jointly work with railroad personnel to come up with a variance that would allow welding and cutting operations to work during shut down periods.

's crew did a demonstration at Keddie showing how they cut the rail, angles that the grinder and cutters operate, and angles the machinery to give the worse case scenario for spark travel distance without shielding in place. The crew also demonstrated shielding curtily in use.

Hydraulic saw used to cut rail
Hydraulic saw used to cut rail. With no spark shielding and no wind, the furthest out spark that was measured was 38'. When shields were in place, sparks were measured at 27'. Measured by [redacted] and [redacted]. This operation has the furthest travel for sparks.

Profile grinder. Shows height of sparks without shielding.
Profile grinder. Shows shielding and spark containment.

Profile grinder. Shows shielding and wear band sparks escaping.
Profile grinder. Shows modification to contain sparks.

Profile grinder. Custom shielding modification. Note bracket for slipping shielding on to unit.
Profile grinder shield.

Hydraulic cutter with shielding containment.
New prototype tent. Currently only one is being used in the Sacramento Valley. Another is on order for use in the Feather River Canyon from vendor in Europe. Crew states it's difficult to work in due to heat and fumes. Tent is made of fire resistant material.

Utilizing measurements and current practices in place for fire prevention and internal policy of using Thermogel wildland fire foam, guidelines were agreed upon to give the railroad the ability to operate during high fire danger periods and make cuts and welds in the interest of safety and emergencies.

Guidelines were developed and reviewed by [redacted] and Mt. Hough Division Chief [redacted] Battalion Chief [redacted] and Fire Prevention Tech [redacted] made the decision on the wind requirement to be 10 mph or higher to enact a high fire precaution level as indicated in the Cutting Permit. The Feather River Canyon is subject to micro climate environments.

[Redacted] agreed to the terms of the permit.
The following conditions will be in affect during declared fire season and will serve as variances during all Project Activity Levels (PAL). These variances will also serve as conditions for a welding, cutting and grinding permit.

Welding (Electric or Acetylene):

- Clear all flammable vegetation including snags, around the work area for a minimum of 10 feet to mineral soil.
- Must have one serviceable round point shovel at least 46” long.
- Have one 5-gallon backpack pump filled with water.
- If welding under windy conditions, pre treat area with foam as listed in the cutting grinding requirements for a minimum of 20 feet in all directions.
- Must leave one person at site for at least one hour after completion of operation, to detect and suppress fires. Person to be equipped with shovel, 5 gallon backpack pump and communications to report fire.

Cutting /Grinding / Botet:

In addition to the above, operator must have:

- Fire retardant shield capable of containing sparks.
- Pre treat area with foam* around rail cuts and grinding operations for a circumference of 30' in all directions. * Foam treatment is defined as “foam that is used to control, suppress, or prevent fires in Class A fuels” as defined in NFPA (National Fire Protection Association) 1150.
- For welding trucks, have a 5 gallon filled backpack pump, and two 15 gallon water tanks with minimum of 50’ of hose and nozzles. One shall be dedicated to firefighting purposes only, and the other used to supply water to mix with foam for pre treatment purposes.
- For section trucks doing rail cuts, non welding operations, 25 gallons of water and a 5 gallon backpack pump is required. Retain 12.5 gallons of water for fire suppression purposes.
- One person per cutter/grinder will have the duty of fire spotter during operation.

During Red Flag wind warnings and/or wind at the cutting grinding site 10 mph measured at eye level the following additional measures should be in place:

- Pretreat area with foam* around rail cuts and grinding operations for a circumference of a minimum of 40’ in all directions. * Foam treatment is defined as “foam that is used to control, suppress, or prevent fires in Class A fuels” as defined in NFPA (National Fire Protection Association) 1150. Wind speed and direction may require additional pre treatment.
- Additional shielding of an enclosed tent (3 sides) or a secondary shield capable of containing stray sparks not contained within the main shield will be utilized.

Note: During high wind conditions and Red Flag Warnings, only rail cut operations that are critical to service interruptions should be undertaken. These operations include, but
are not limited to, rail detector operations, broken rail repairs, "Frog" Switch component repairs and production rail gang operations. Non critical maintenance rail cuts, as determined by the railroad, should be differed until high fire danger weather conditions cease.

Production crews (Rail Gangs) on a set schedule shall adhere to the same requirements as listed above.

Red Flag warnings are posted on the National Weather Service Western region Headquarters website at www.wrh.noaa.gov

Project Activity Levels are available by calling (800) 847-7766. Levels of Ev and E indicate periods of high fire danger for planning and general fire danger awareness.

All fires must be reported to the Plumas Emergency Command Center immediately at, (530-283-0193).

36 Code of Federal Regulation 261.52(k) / Public Resource Code 4427: Use of machinery in area where burning permit required; required clearing and fire tools.

During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarps, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land; brush-covered land, or grass-covered land, without doing both of the following:

(a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.
(b) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This section does not apply to portable power saws and other portable tools powered by a gasoline-fueled internal combustion engine.
California Inter-Agency

BURNING PERMIT

Issued To: UNION PACIFIC RAILROAD
#1 RAILROAD AVE. KEEDDE CA 95952
Telephone Number: 530 532-6230

Burning Location: PLUMAS N.F. - WIDE

County of PLUMAS

STATE OF CALIFORNIA.

Burning authorized by this permit hereby applies to:

☐ Burn in incinerator
☐ Burn debris in small 4' X 4' piles
☐ Burn small plots of grass or weeds in lots or residential premises
☐ Burn small parcels or strips for hazard reduction
☐ Set off fireworks

☐ AGRICULTURAL BURNING, CROP TYPE
☐ OTHER (Explain) CUTTING / WELDING / BURNING

ACRES/TONS

This permit is subject to the terms and conditions of use as indicated:

1. Permittee must not burn during very hot and dry periods when winds are strong enough that burning would be considered unsafe. (Example: wind keeps leaves in motion or extends a light flag or cloth.)
2. The fire shall be: (a) attended at all times by at least one prudent and responsible person; (b) confined within cleared firebreaks or barriers adequate to prevent it from escaping control.
3. When the burning operation authorized by this permit is in an incinerator: (a) a minimum clearance of 10 feet from all flammable material must be provided and maintained; (b) all openings must be screened with nonflammable material with holes not larger than ¼ inch; and (c) must be attended at all times by a responsible person until fire is dead out.
4. This permit does not relieve the permittee of any duty to use reasonable and ordinary care to prevent damage to the property of others or injury to persons as prescribed by law.
5. THIS PERMIT IS VOID DURING PERIODS WHEN BURNING IS PROHIBITED BY STATE LAW, LOCAL ORDINANCE, OR PROCLAMATION OF PUBLIC OFFICERS.
6. This permit is valid only on those days which are not prohibited by the state Air Resources Board pursuant to Section 41855 of the Health and Safety Code or by the local air pollution control district.
7. Before burning call N/A
For Air Pollution Control call N/A
8. Additional terms: MUST ADHERE TO PLUMAS N.F.
LE-5 ATTACHMENT.

I own or legally control the above described land. I agree to comply with all fire laws, ordinances, and regulations. I further agree to comply with specific terms of this permit.

Signed: [signature]

Date: 4/7/08

Director of the California Department of Forestry and Fire Protection

By [redacted], Agent

Title: FIRE PREV. TECH.

Issuing Agency: Mt. Hough R.D.

Dist./Batt.

See reverse side for further information

Caution you can be held liable for escaped fires

Violations of any burning permit terms are a violation of State

Laws and renders the permit null and void.

CGF FORM LE-5 (REV. 6/08)
STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
CALIFORNIA INTER-AGENCY BURNING PERMIT
E-5 (REV 6/98)

California Inter-Agency
BURNING PERMIT
No. 729426

ISSUED TO: UNION PACIFIC RAILROAD

#1 RAILROAD AVE. KEDDE R
(Address) CA 95952

TELEPHONE NUMBER: 530-532-6230

BURNING LOCATION: PLUMAS N.F. - WIDE

(CITY OR TOWNSHIP) SEC.

(COUNTY OF) TWP. R

STATE OF CALIFORNIA.

Burning authorized by this permit hereby applies to:

(Check applicable block below)

☐ Burn in incinerator
☐ Burn debris in small 4' X 4' piles
☐ Burn small plots of grass or weeds in lots or residential premises
☐ Burn small parcels or strips for hazard reduction
☐ Set off fireworks

☐ AGRICULTURAL BURNING, CROP TYPE

☐ OTHER (Explain)

AGREEMENTS

CUTTING / WELDING / CUTTING

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For Air Pollution Control call N/A

8. Additional terms:

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LE-5 ATTACHMENT

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SIGNED: [Signature]

DATE: 4/7/08

DIRECTOR OF THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

BY:

AGENT

TITLE: FIRE PREV. TECH.

DATE 4/7/08

ISSUING AGENCY: MT. HOUY R.D.

DIST./BATT.

SEE REVERSE SIDE FOR FURTHER INFORMATION

CAUTION YOU CAN BE HELD LIABLE FOR ESCAPED FIRES

VIOLATIONS OF ANY BURNING PERMIT TERMS ARE A VIOLATION OF STATE LAWS AND RENDERS THE PERMIT NULL AND VOID.

DF FORM LE-5 (REV 6/98)
Original (Green) to Ranger, Duplicate (Pink) to Permittee, Triplicate (White) to Local File
Fire Precautionary Welding, Cutting, Grinding Permit Terms

Welding:
- Clear all flammable vegetation including snags, around the work area for 10 feet.
- Must have one serviceable round point shovel at least 46" long.
- One 5-gallon backpack pump filled with water.
- Do not operate under windy conditions.
- Must leave one person at site for at least one hour after completion of operation, to detect and suppress fires.

Cutting/Grinding:
- In addition to the above, operator must have fire retardant shield capable of containing all sparks.
- The permittee must provide one person per cutter/grinder as a fire spotter during operation.

All fires must be reported to the Plumas Emergency Command Center immediately at (530-283-0193).

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(b) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This section does not apply to portable power saws and other portable tools powered by a gasoline-fueled internal combustion engine.
Fire Precautionary Welding, Cutting, Grinding
Permit Terms

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4/3/01
Plumas National Forest

Union Pacific Railroad Fire Precautionary Welding, Cutting, Grinding Permit Terms and Variance Requirements

- Additional shielding of an enclosed tent (3 sides) or a secondary shield capable of containing stray sparks not contained within the main shield will be utilized.

Note: During high wind conditions and Red Flag Warnings, only rail cut operations that are critical to service interruptions should be undertaken. These operations include, but are not limited to, rail detector operations, broken rail repairs, "Frog" switch component repairs and production rail gang operations. Non critical maintenance rail cuts, as determined by the railroad, should be differed until high fire danger weather conditions cease.

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Plumas National Forest
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Welding (Electric or Acetylene):
- Clear all flammable vegetation including snags, around the work area for a minimum of 10 feet to mineral soil.
- Must have one serviceable round point shovel at least 46" long.
- Have one 5-gallon backpack pump filled with water.
- If welding under windy conditions, pre treat area with foam as listed in the cutting grinding requirements for a minimum of 20 feet in all directions.
- Must leave one person at site for at least one hour after completion of operation, to detect and suppress fires. Person to be equipped with shovel, 5 gallon backpack pump and communications to report fire.

Cutting /Grinding / Botet:

In addition to the above, operator must have:
- Fire retardant shield capable of containing sparks.
- Pre treat area with foam* around rail cuts and grinding operations for a circumference of 30' in all directions. * Foam treatment is defined as “foam that is used to control, suppress, or prevent fires in Class A fuels” as defined in NFPA (National Fire Protection Association) 1150.
- For welding trucks, have a 5 gallon filled backpack pump, and two 15 gallon water tanks with minimum of 50' of hose and nozzles. One shall be dedicated to firefighting purposes only, and the other used to supply water to mix with foam for pre treatment purposes.
- For section trucks doing rail cuts, non welding operations, 25 gallons of water and a 5 gallon backpack pump is required. Retain 12.5 gallons of water for fire suppression purposes.
- One person per cutter/grinder will have the duty of fire spotter during operation.

During Red Flag wind warnings and/or wind at the cutting grinding site 10 mph measured at eye level the following additional measures should be in place:
- Pretreat area with foam* around rail cuts and grinding operations for a circumference of a minimum of 40' in all directions. * Foam treatment is defined as “foam that is used to control, suppress, or prevent fires in Class A fuels” as defined in NFPA (National Fire Protection Association) 1150. Wind speed and direction may require additional pre treatment.

7/21/2006
## Incident Status Summary (ICS-209)

<table>
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<tr>
<th>1: Date</th>
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</thead>
<tbody>
<tr>
<td>08/06/2008</td>
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<tr>
<td>2: Time</td>
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<tr>
<td>1700</td>
</tr>
<tr>
<td>3: Initial Update Final</td>
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<tr>
<td>XX</td>
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<tr>
<td>4: Incident Number</td>
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<tr>
<td>CA-PNF-000784</td>
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<tr>
<td>5: Incident Name</td>
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<tr>
<td>RICH</td>
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</table>

### 6: Incident Kind (Full Suppression/Perimeter Control)
- **Wildland Fire**

### 7: Start Date Time
- **07/29/2008 1512**

### 8: Cause Investigated
- Under Investigation

### 9: Incident Commander
- [Redacted]

### 10: Incident Command Organization
- Type 1 Team
  - CA-PNF

### 12: County
- PLUMAS

### 13: Latitude and Longitude
- Lat: 40° 0' 41" Long: 121° 17' 11"

### 14: Short Location Description (in reference to nearest town): 20 miles west of Quincy, CA

### 15: Size/Area Involved
- **6,586 ACRES**
  - 65 Percent

### 16: % Contained or MMA
- CA-PNF

### 17: Expected Containment Date: 08/10/2008

### 18: Line to Build 0 Miles

### 19: Estimated Costs to Date $8,342,160

### 20: Declared Controlled Date: Time:

### 21: Injuries this Reporting Period: 0
### 22: Injuries to Date: 1
### 23: Fatalities: 0
### 24: Structure Information

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th># Threatened</th>
<th># Damaged</th>
<th># Destroyed</th>
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<td>Commercial Property</td>
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<tr>
<td>Outbuilding/Other</td>
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### 25: Threat to Human Life/Safety:
- Evacuation(s) in progress ----
- No evacuation(s) imminent ---
- Potential future threat ------ XX
- No likely threat -----------

### 26: Projected incident movement/speed 12, 24, 48, and 72 hour time frames:
- **12 hours: Backing, creeping and smoldering in all divisions. No fire growth expected.**
- **24 hours:**
- **48 hours:**
- **72 hours:**

### 27: Values at Risk:
- Include communities, critical infrastructure, natural and cultural resources in 12, 24, 48 and 72 hour time frames:
- **12 hours:**
- **24 hours:** Pacific, Gas and Electric hydroelectric power structures and transmission line from Caribou to Quincy and along Highway 70.
- **48 hours:**
- **72 hours:**

### 28: Critical Resource Needs (amount, type, kind and number of operational periods) in priority order in 12, 24, 48, and 72 hour time frames:
- **12 hours:**
- **24 hours:**
- **48 hours:**
- **72 hours:**

### 29: Major problems and concerns (control problems, social/political/economic concerns or impacts, etc.) Relate critical resources needs identified above to the Incident Action Plan.

**Extremely steep terrain with very difficult access. ERCs and live and dead fuel moisteres are at critical levels. Communities remain sensitive to the long duration fire season, particularly the continued impacts from smoke.**

### 30: Observed Weather for Current Operational Period
- Peak Gusts (mph): **24 Max.**
- Temperature: **96**
- Wind Direction: **SW Min.**
- Relative Humidity: **12%**

### 31: Fuels/Materials Involved: 10 Timber (litter and understory)
- Fuel Models 4, 8 and 9 are also within the fire area.

### 32: Today's observed fire behavior (leave blank for non-fire events):
**Little or no fire spread was observed. Fuels within interior islands continue to be consumed.**

### 33: Significant events today (closures, evacuations, significant progress made, etc.): Pilot car operations will be terminated at 1800 today on Highway 70. The highway will now be open to the public utilizing warning road signs. Crews continue with heavy mop-up on all divisions. The Rush Creek and Virginia Roads are open only to residents. Forest closures include Bucks Lake Wilderness and the Middle Fork of the Feather River Canyon.
Rich and Belden Fires

INCIDENT ACTION PLAN

PACIFIC NATIONAL INCIDENT TEAM
NORTHWEST

www.pnw2.com

Saturday-Sunday
August 2-August 3, 2008
0600-0600

Rich Fire P5ED7R (0511)
Belden Fire P5D8LS (0511)
5. General Control Objectives for the incident (include alternatives)

1. Provide for the safety of incident personnel and the public by utilizing risk management processes. LCS mitigation will be required for all suppression operations.

2. Protect private property, improvements, and other commercial endeavors by working closely with landowners and cooperators.

3. Manage the incident in the most cost effective manner by keeping costs commensurate with the values at risk. Closely adhere to the Northern Province Fire Business Management Operating Guidelines.

4. Protect water quality in wild and scenic rivers, sensitive species habitat, and scenic/roadless areas by utilizing minimum disturbance practices.

5. Provide timely and current information to the public by implementing information tralines in communities, media releases, and periodic meetings.

6. Weather Forecast for Period

See attached Fire Weather Forecast

7. General Safety Message

See attached safety message

8. Attachments (mark if attached)

- Organization List - ICS 203
- Div. Assignment Lists - ICS 204
- Communications Plan - ICS 205
- Medical Plan - ICS 206
- Air Operations Summary - ICS 220

- Incident Map
- Safety Message
- Traffic Plan
- Fire Weather Forecast
- Fire Behavior Forecast

- Logistic Message
- Human Resource Message
- Unit Log

9. Prepared by (Planning Section Chief) [illegible]

10. Approved by (Incident Commander) [illegible]
Fire Weather Forecast

FORECAST NO: 6
Forecast For: Day & Night, Saturday 8/2/08
Forecast Prepared: 1500 Thu, 2 August 2008

Incident: Rich Fire
Unit: Mt Hough RD, Plumas NF
SIGNED: Incident Meteorologist (IMET)

Discussion: The tail end of a dry cold front passing through this morning will lead to some cooling and relative humidity rises this afternoon when compared to what was observed Friday afternoon. This will result in a more stable atmosphere this afternoon through tonight. Sunday afternoon through Monday night a warming trend is expected, with significant drying and Haines 5 air over the area.

WEATHER FORECAST for SATURDAY:
WEATHER AND SKY CONDITION: Smoke through Noon PDT, then Mostly Sunny.
TEMPS: River Canyon: 80 to 93F. 24 Hour Trend= Down 2-4F
Upper slopes and ridges above 4000 feet: 78 to 82F. 24 Hour Trend= Down 2-4F
RH: River Canyon: 18-27%. 24 Hour Trend = Up 3-6%
Upper slopes and ridges above 4000 feet: 23-30%. 24 Hour Trend = Up 3-6%

20 FT WINDS:
RIDGETOP- Southeast 5 mph, becoming Southwest 5-10 mph late morning, increasing to SW 10-15mph in the PM. Late afternoon gusts 20-30mph. 24Hr Trend= Little Change.

SLOPE/CANYON- Down slope and down canyon winds 5-10 mph with gust to 15 mph in the early morning then diminishing. Wind becoming upslope and up canyon 6-12 mph late morning, then increasing to 12-22 mph in the afternoon. Gusts to 22 to 28 mph in the afternoon in the river canyon. 24 hr Trend: No Change.

STABILITY/INVERSION: Inversion 5000 feet MSL, breaking around Noon PDT.
HAINES INDEX: 3... due to increasing stability.
TRANSPORT WINDS: Southeast 5 mph early, becoming SW 10-15 mph in the afternoon.


3-5 Day Outlook (Monday through Wed): Very dry air will move in from the Desert Southwest Sunday night through Tuesday. Haines 5 conditions through Tuesday afternoon. Becoming Partly Cloudy late Tuesday through Wednesday with a chance of thunderstorms. Temps 83-100F, Min RH 10-22%. Poor RH recoveries Sunday night, Monday night, and Tuesday night around 35-50%. Wind SE 0-5 mph overnight, rising to SW 5-15 mph with gusts 15-25 mph in the afternoon and evenings.

Nearby Weather Observations from Friday afternoon:
Area 69 FRAWS 5 (elevation 4272ft): Max 83F / Min RH 19% / Max Wind: SW 14 G 30mph
Sky High FRAWS 18 (elevation 4172ft): Max 84F / Min RH 21% / Max Wind: WSW 6 G 17 mph
Turnout FRAWS 1 (elevation 2747ft): Max 93F / Min RH 12% / Max Wind: W 7 G 17 mph
Pilot car operations on Highway 70

- One way bound at a time.
- Staffing of dip sites.
- Do not pull out and pass the queue.
- Watch for traffic. Park and work well off the road. Enter roadway with caution.

Driving Speeds

Some drivers of vehicles assigned to this fire have been observed traveling through town and on incident roads at excessive speeds. This is totally unacceptable. It goes against the number one objective on this incident: protect the safety and health of incident personnel and the public. We have a zero tolerance policy against reckless driving and offenders will be dealt with accordingly. It is your responsibility to make sure this message gets down to every vehicle operator on this incident.

Snags

Fire weakened snags are coming down. Stay vigilant. Avoid the obvious patches. Disengage if it does not feel right. See page 20 of Incident Response Pocket Guide for "How to Properly Refuse Risk".
7. Control Operations
Complete burnout operations and begin mop-up.

8. Special Instructions
See Commo. plan for radio frequencies.

9. Division/Group Communications Summary

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Prepared by (Resource Unit Leader)  
Approved by (Planning Section Chief)  
Date Prepared 08/01/08  
Time Prepared 1206
7. Control Operations
Continue mop-up and complete control lines in DIV B. Prep the 22 Road from Deadwood Saddle to the 67 Road. Burnout 22 Road as necessary.

8. Special Instructions

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### Division/Group Communications Summary

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Prepared by (Resource Unit Leader) [Redacted]
Approved by (Planning Section Chief) [Redacted]
Date Prepared: 08/01/08
Time Prepared: 1247

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ICS 204
1. Branch

3. Incident Name
   RICH

4. Operational Period
   08/02/08   Saturday   Day Shift 0600 - 0600

5. Operations Personnel
   Operations Chief
   Division/Group Supervisor
   Operations Chief
   Air Attack Supervisor
   Branch Director
   Safety Officer

6. Resources Assigned This Period

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7. Control Operations
   Establish dozer and handline down No Name Ridge.

8. Special Instructions
   See Commo. plan for radio frequencies.

9. Division/Group Communications Summary

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<tr>
<th>Function</th>
<th>Frequency - RX</th>
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Prepared by (Resource Unit Leader) [Redacted]
Approved by (Planning Section Chief) [Redacted]
Date Prepared 08/01/08  Time Prepared 1207

Final 12
### Division Assignment List

**1. Branch**

**2. Division/Group**

**3. Incident Name**

**4. Operational Period**

03/02/08 Saturday Day Shift 0600 - 0600

**5. Operations Personnel**

<table>
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<tr>
<th>Role</th>
<th>Name</th>
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<td>Operations Chief</td>
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**6. Resources Assigned This Period**

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**7. Control Operations**

Continue to provide structure along Hwy. 70 and Rich Gulch area. Evaluate structure protection along Hwy. 70 to the east.

**8. Special Instructions**

See Commo, plan for radio frequencies.

**9. Division/Group Communications Summary**

<table>
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Prepared by (Resource Unit Leader)  
Approved by (Planning Section Chief)  
Date Prepared 08/01/08  
Time Prepared 1208

ICS 204  
Page 1 of 4  
ICS 204 Forms
7. Control Operations
Fire will be monitored by air.

8. Special Instructions
See Commo Plan for radio frequencies.

9. Division/Group Communications Summary

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Prepared by (Resource Unit Leader) Approved by (Planning Section Chief) Date Prepared Time Prepared

ICS 204 Final Page of ICS 204 Forms
Division Assignment List

1. Branch

2. Division/Group
   NIGHT - C/L

3. Incident Name
   RICH

4. Operational Period
   08/02/08 Saturday Night Shift 1800 - 1800

5. Operations Personnel
   Operations Chief: [Name]
   Division/Group Supervisor: [Name]
   Operations Chief: [Name]
   Air Attack Supervisor: [Name]
   Branch Director: [Name]
   Safety Officer: [Name]

6. Resources Assigned this Period:

<table>
<thead>
<tr>
<th>Strike Team/Task Force/Resource Designator</th>
<th>Leader</th>
<th>Num of Pers.</th>
<th>Trans Y/N</th>
<th>Drop Off PT./Time</th>
<th>Pick Up PT./Time</th>
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<tbody>
<tr>
<td>HC1 PLEASANT VALLEY</td>
<td></td>
<td>20</td>
<td>N</td>
<td></td>
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<td>HC1 9252G</td>
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<td>34</td>
<td>N</td>
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<tr>
<td>HC2 COMMANCHE</td>
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<td>20</td>
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<td>ENG LNF #32</td>
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<td>5</td>
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<td>ENG3 # 34</td>
<td></td>
<td>5</td>
<td>N</td>
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7. Control Operations
   Provide structure protection as directed by Operations. Coordinate suppression activities with Day Shift Overhead.

8. Special Instructions
   See Commo, plan for radio frequencies.

9. Division/Group Communications Summary

<table>
<thead>
<tr>
<th>Function</th>
<th>Frequency - RX</th>
<th>Frequency - TX</th>
<th>Tone</th>
<th>System</th>
<th>Channel</th>
<th>System</th>
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<td>Tactical Div/Group</td>
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<td>Air to Ground</td>
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Prepared by (Resource Unit Leader): [Name]
Approved by (Planning Section Chief): [Name]
Date Prepared: 08/01/08
Time Prepared: 1411

ICS 204 Page of ICS 204 Forms
<table>
<thead>
<tr>
<th>Ch #</th>
<th>Function</th>
<th>Channel Name/Trunked Radio System Talkgroup</th>
<th>Assignment</th>
<th>RX Freq</th>
<th>N or W</th>
<th>RX Tone/NAC</th>
<th>TX Freq</th>
<th>N or W</th>
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<td>TAC 1</td>
<td>Div L &amp; Structure</td>
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<td>5</td>
<td>Air/Ground</td>
<td>A/G</td>
<td>Branch 1 &amp; 11</td>
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<td>Red Hill (Tone 1)</td>
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<td>TAC 9</td>
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<tr>
<td>10</td>
<td>CMD RED</td>
<td>CMD 20</td>
<td>RICH ICP</td>
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<td></td>
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<td>Red Hill</td>
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<td>A/G</td>
<td>Branch III</td>
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<td>CMD 102</td>
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</table>

The convention calls for frequency lists to show four digits after the decimal place, followed by either an "N" or a "W", depending on whether (last Clone 7/2) the frequency is narrow or wide band. Mode refers to either "A" or "D" indicating analog or digital (Project 25)

ICS 205-Draft 04.11.04
AIR OPERATIONS SUMMARY

1. INCIDENT NAME: Rich and Belden Fires

2. OPERATIONAL PERIOD DATE: 08/02/08
   Sunrise: 0537  Sunset: 2027

3. # OF IAPs NEEDED: 20

4. REMARKS (Safety Notes, Hazards, Air Operations Special Equipment, TFR Coordinates, etc.):

   *Portable FAA Tower located at Quincy Airport (A-19)
   *Keep Clear of drop areas during retardant and bucket operations.
   *Watch for and identify aerial hazards, pass this information on to Division Supervisors and/or Helibase.
   *Monitor Air to Ground throughout the operational period.
   *All Helicopters are to ensure transponders are on 1255 and altitude reporting is on if aircraft is so equipped.

5. TFR: Notam # 8/0094
   Altitude - 10,000 MSL
   Radius - None, Polygon Shape

6. PERSONNEL

   AOBD:  
   ASGS:  
   ATGS:  
   ATGS:  
   HEB1:  
   HEB2:  

7. FREQUENCIES

   AM  FM
   AIR/AIR Primary (A-18) (b) (2)  
   AIR/AIR Secondary A-29  
   Air to Ground – Primary (A-15)  
   Air to Ground – Secondary (A-28)  
   National Flight Following  
   Deck  
   Quincy Tower

8. FIXED-WING

   # Avail / Type / Make-Model / FAA N# / Base(s)
   Airtankers  Assigned as needed (Chico Airport)
   Lead Plane  Assigned as needed
   ATGS N9096N – Aero Commander N999GB @ Chico Airport (A-20, 21)
   Helibase  530-283-9137
   Helibase Fax:  530-283-1958

9. HELICOPTERS and Air Attack Airplanes

<table>
<thead>
<tr>
<th>FAA N#</th>
<th>TY</th>
<th>MAKE/MODEL</th>
<th>BASE</th>
<th>AVAIL</th>
<th>REMARKS</th>
<th>FAA N#</th>
<th>TY</th>
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<th>BASE</th>
<th>AVAIL</th>
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<tr>
<td>N118MB</td>
<td>3</td>
<td>A-Star</td>
<td>Quincy</td>
<td>0830</td>
<td>(A-13)</td>
<td>N458CC</td>
<td>2</td>
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<td>Quincy</td>
<td>0830</td>
<td>(A-12)</td>
<td>N58AH</td>
<td>2</td>
<td>S-58T</td>
<td>Quincy</td>
<td>0830</td>
<td>(A-11)</td>
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</tbody>
</table>
LOGISTICS MESSAGE

Meals:
Breakfast - 0500 to 0930
Lunches - Ice, water, sports drinks at Refer.
Dinner - 1700 to 2200

Showers:
0500-1200 & 1400-2200

Medical:
0530 to 2200

Ground Support:
GS Open 0600-2200
Mechanic on site Open 0600-2200
Fuel Truck located on west side of ICP and open 24 hours

Supply Cache:
Open 0600 to 2200
## Rich Fire Phone List

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>Communications</td>
<td>530-283-0713</td>
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<tr>
<td>Information</td>
<td>530-283-7882</td>
</tr>
<tr>
<td>Situation</td>
<td>530-283-5973</td>
</tr>
<tr>
<td>Check In/ Demob</td>
<td>530-283-5971</td>
</tr>
<tr>
<td>Fax</td>
<td>530-283-4153</td>
</tr>
<tr>
<td>Ordering</td>
<td>530-283-4532</td>
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<tr>
<td>Fax</td>
<td>530-283-9001</td>
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<td>Equipment Time</td>
<td>530-283-0716</td>
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<td>Personnel Time</td>
<td>530-283-0745</td>
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<td>Fire Behavior/ IMET</td>
<td>530-283-5972</td>
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<tr>
<td>Name</td>
<td>Personnel Roster Assigned</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Major Events</th>
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9. Prepared by (Name and Position)
Questions & Answers About

Thermo-Gel® is designed to be ejected at two percentages, 1% for suppression and wet lines or 2% for home and structure protection and defensible perimeters. The product is to be used **only** with Thermo-Gel® equipment.

Thermo-Gel® Demonstration clips:  
[TGel Clip1 3mb]  
[TGel Clip2 3mb]  
[TGel Clip3 2mb]

Click Topics Below to Jump Ahead:

- Basic Product Specifications.
- Thermo-Gel Systems are Expensive - Why?
- Questions About Structures and Home Protection.
- Questions About Forest Fire Fighting.
- Questions About Fire Fighting.
- Application and Equipment.
- Storage.
- Thermo-Gel and the Environment.

Basic Product Specifications:

Q. What is Thermo-Gel?
A. Thermo-Gel is a Class-A fire retardant gel concentrate that when added to water transforms water into a fire preventing and heat absorbing gel. This gel adheres to any kind of surface, even to vertical window panes and forms a protective layer of gel that cools and protects objects from heating, charring and flame impingement. This gel can also be used for bringing fires under control more quickly. Water and time savings of up to 50% are possible. Thermo-Gel is U.S. Forest Service approved and meets NFPA 1150 standard.

Why is Thermo-Gel More Expensive than Foam?
A. Thermo-Gel is a specialized polymer product that suspends water - it is similar to:

http://www.outdoorfireprotection.com/thermogel_QandA.htm
to the materials found in disposable diapers. Thermo-Gel is more effective than foam which suspends air bubbles. Any price differential between the two products begins to drop when you consider how much foam is really required to reach the effectiveness level of Thermo-Gel. Thermo-Gel cleans up quickly and is Ecologically friendly - foam is not and cleanup costs will be higher. Thermo-gel requires specially designed eductor nozzles, hoses and hardware to apply it in the correct solution of 2% for structures or 1% for fire lines and outdoor areas. These items are expensive but well-built. When choosing between water-only (good), foam (better) or Thermo-Gel (best) you must consider the value of your home or property. If you decide to save money on firefighting, you risk more damage.

Questions About Structures and Home Protection

Q. What can be protected with Thermo-Gel?
A. Thermo-Gel will protect any surface such as shrubs, trees, windows, siding, cars, fuel tanks, rail cars, utility poles, etc.

Q. Does Thermo-Gel cause damage to my house?
A. Thermo-Gel is an environmentally compatible, non-aggressive gel consisting of 98% water, a small portion of surfactants and the gelating agent, which is a super absorbent polymer similar to those used in baby diapers. Thermo-Gel is not aggressive to paint, wood, glass, stone or concrete. Due to high water content, direct exposure to electricity or electric equipment should be avoided in order to reduce the risk of short circuits.

Q. How much do I need for my house?
A. One gallon of Thermo-Gel per 50 gallons of water (2% solution) will cover 1,000 square feet surface area. A homeowner's kit with (4) gallons will cover 4,000 square feet. A typical 2000 sq. foot house measuring 60' long by 35' wide and 9' high walls is about 2,000 square feet needing two gallons. The other two gallons can be used for eaves, roof, deck and creating a wetted outside perimeter.

Q. How long does the protection last?
A. When applied at the proper amount, Thermo-Gel will protect a structure for several hours. The cooling effect is provided by the evaporation of water from the gel. As long as there is still a gel layer on the object, it will remain protected. Strong winds and very high temperatures will decrease the protection time.

Q. At what temperature does Thermo-Gel start to burn?
A. At a 2% solution the gel consists of 98% water. Just like water, the gel never starts to burn. Only after all of the water has been evaporated do the residuals begin to be burned. However, as they make up for less than 2% there is barely enough energy set free in this unlikely case. The polymer decomposes mainly into carbon dioxide, nitrogen oxide and water. No toxic components like cyanides or hydrogen chloride have been found.

Q. How else can I use Thermo-Gel to protect my home?
A. Thermo-Gel is very effective in creating a home defense barrier around a...
structure so it can be used to create a fire free zone around a house.

Questions About Forest Fire Fighting

Q. How do we create a fire line or firebreak with Thermo-Gel?
A. Spray the gel on vegetation. Make sure that foliage, grass, branches, combustibles on the ground are well protected. Large quantities of Thermo-Gel may be ordered for truck-mounted or stationary tanks.

Q. How much Thermo-Gel do we need to create a fire lane?
A. One 5-gallon container of Thermo-Gel at 2% dilution will cover approximately 5000 square feet or a lane 40' wide by 125' long. At 1% dilution a 5-gallon container will cover approximately 10000 square feet or a lane 40' wide by 250' long.

Q. How do we apply Thermo-Gel without a fixed water source or electricity for pumps?
A. Thermo-Gel offers FireDos® water driven proportioners that can be mounted fire trucks, irrigation systems or portable tanks. It is powered by water flow only. Flow rates from 34gpm to over 2500gpm are possible. Custom design applications are available for projects of any size.

Questions About Fire Fighting

Q. Can Thermo-Gel be used to extinguish fires?
A. Thermo-Gel is very effective in fighting Class A fires. It can knock down fires minimum time with a minimum amount of water needed. It also minimizes the risk of rekindling, even when very critical combustibles are burning.

Q. Can Thermo-Gel be used to extinguish liquid combustibles like petroleum or diesel?
A. No, Thermo-Gel is a Class A fire additive. It works perfectly on solids but Class B pool fires cannot be fought with Thermo-Gel. It is possible, however, to protect oil tanks and similar items from fire by applying a gel coating on the surface and prevent ignition extremely effectively.

Q. Is it easy to clean up?
A. Yes, Thermo-Gel can be washed off with a strong stream of water. In case of stubborn residues or large amounts of gel, treatment with regular household sal will help.

Application and Equipment

Q. How is Thermo-Gel applied?
A. Thermo-gel is applied with specialized nozzle-end eductors designed for this product that can supply either a 1% or 2% solution. Thermo-Gel should not be applied with any other equipment. Homeowners need a 1" minimum hose with 15 gallons per minute flow rate and 40 psi minimum pressure. If you do not have that kind of pressure, a booster pump will be required. If pressure and flow perm

http://www.outdoorfireprotection.com/thermogel_QandA.htm

8/7/2008
our home and commercial systems are designed for 30 gallons per minute and a 1 1/2" fire hose. Industrial and forest fire applications up to 3000 gallons per minute or more can be custom designed.

Q. Can I dilute Thermo-Gel inside the container with water?
A. No this cannot be done. It is vital that no water gets into the Thermo-Gel container as Thermo-Gel will immediately form gel inside the container and block the delivery system, hoses, nozzles, etc.

Q. Can Thermo-Gel be added to a secondary foam tank on fire engines?
A. Yes, but it must be clean and free of water. Care must be taken that plumbing and metering devices are completely free of water before Thermo-Gel is injected.

Q. Can Thermo-Gel be mixed with fire fighting foams?
A. Thermo-Gel cannot be mixed with Class-A foam concentrates due to the high water content of the foam concentrate. This would lead to uncontrolled gelation of the reservoir before the product can be used.

Q. Can the product be used with very hard water?
A. Yes, but the proportions may have to be increased due to the loss of effectiveness with very hard water.

Q. Does Thermo-Gel require any special handling?
A. Thermo-Gel is very slippery when applied, so users must use extreme caution not to slip or fall when it is used.

Q. How far can we project the gel? Does it behave similar to foam?
A. Foam cannot be projected as far as Thermo-Gel and Thermo-Gel lasts much longer than foams. When the same nozzle pressure is applied the projection distance of Thermo-Gel is at least equal to water.

Storage

Q. How long can I store Thermo-Gel?
A. Thermo-gel may be stored for 3 years after date of purchase, after that the product has expired.

Q. Can I store Thermo-Gel in any container?
A. Some metals can be affected, high-grade steel and aluminum work fine. Plastic materials should be plasticizer free (no Styrofoam). HDPE and polyester resins are fine. We strongly recommend storing Thermo-Gel in it's original containers.

Q. Are there any specific requirements for storage?
A. Thermo-Gel should be stored above freezing and below 104 degrees Fahrenheit. It should preferably be stored in a place without direct UV (sunlight) exposure. Containers must always be tightly closed.

Q. What is the shelf life of a 1% solution?
A. Tests with fire extinguishers show at least a 2-year shelf life. UV exposure shortens shelf life.

Q. What happens to a plant that is protected by Thermo-Gel?
A. While no long-term damage to plants has been observed, the gel on foliage can cause spots on leaves due to the tendency of gel to absorb moisture. At a very heavy coverage over some days and under drought conditions, and depending on plant type, can cause a drying effect on foliage. Some plant species may lose their leaves. However, this effect is only temporary and very soon new foliage should develop. Fire damage to plants without Thermo-Gel protection is much more destructive.

Q. What happens when Thermo-Gel gets into the soil?
A. Thermo-Gel will only enter the top layer of soil. There is no possibility for leaching.

Q. Will Thermo-Gel persist in the environment?
A. Thermo-Gel is a water/oil emulsion containing a polymer. The main constituent of the oil phase is a fatty acid ester of biological origin. The oil phase is readily biodegradable, while the remaining polymer is expected to biodegrade with time. This is reflected in biodegrading studies that were carried out with similar polymers. Recent studies demonstrated that polymers of this kind are biodegraded by white rot fungus in soil. The process is at a low but constant rate. The polymers are solubilized, incorporated into the fungus mycelia and mineralized. The constituents of the polymer will enter into the natural carbon and nitrogen cycle. No toxic metabolites have been identified.

Q. What are the effects of Thermo-Gel until it is biodegraded?
A. The polymer in Thermo-Gel which provides the gelation effect and which shows the slowest biodegrading among the components of Thermo-Gel is very similar to other products which are used for soil enhancement or erosion control. These products improve and help to recover soil by balancing the moisture content or preventing erosion after catastrophes like flooding, severe drought or fires. They are not intentionally brought into the environment and are harmless. There is no proof that the polymers in Thermo-Gel are effective in this way, too, yet negative effects of the polymers are obviously not expected.

Thermo-Gel is covered by U.S. Patent numbers 5,989,446 & 6,245,252. Other patents pending.

www.thermo-gel.com
Shipping and Taxes

Most of our kits contain heavy liquids, so shipping via UPS or Fed Ex ground within 5-10 business days is standard. Faster 2 to 4 day express delivery is available by checking our shipping chart and adding the amount indicated to your order. Larger systems using tanks, pumps and heavy hardware are quoted at time of order and shipped via truck. Taxes are included in prices above for all states except Arizona which adds 5.6% sales tax.

Returns Policy

Thermo-Gel® has a shelf life of three years and we will not accept returns after 30 days from shipping date. Other products may be returned within 90 days of delivery date if in new and unused condition. Extra or leftover parts from homeowner product kits may be returned for small refund if in new condition, but please contact us first for a refund amount before sending. There is a 15% re-stocking fee for all returned items and buyer pays for shipping back to Kaye Contracting. Decline delivery of products if packaging is damaged or mutilated and we will re-ship new product without restocking fees. Upon receipt of your return we will contact you via E-mail or phone to verify condition of equipment and refund amount.

Example of cost of returns:

Homeowner kit original price = $350.00
15% restocking fee = -$52.50
Shipping Estimate = -$30.00
Refund Amount to Customer = $267.50

Warranty

All hoses, nozzles, hardware, pumps, and related equipment carries a one year limited warranty from date of purchase. Send any defective hardware with explanation of problem(s) under 150 lbs. that can be packaged and shipped via UPS or Fed Ex ground to Kaye Contracting Co., 3053 W. Owens Drive, Phoenix, AZ 85086 for repairs or replacement. In some cases

http://www.outdoorfireprotection.com/products.htm

8/7/2008
we may send you new equipment without return required if you have proper documentation. Hardware over 150 lbs., pumps and custom-built systems will be inspected and repaired by a sales engineer on-site at your location when possible. Limitations on warranty exist for all hardware improperly installed, stored below freezing or above 100 degrees Fahrenheit, any equipment involved in or exposed to fires or other natural disasters, and any equipment involved in vehicular or industrial accidents. Kaye Contracting Company reserves the right to inspect and reject any warranty claims arising from the conditions outlined herein, and we are not responsible for performance of any system if water supply or pressure is not adequate for Outdoor Fire Protection applications.

Important Note: Due to the environmental extremes involved with fires, warranty is immediately voided for any equipment sold by this company that is involved in any fire of any kind.

Thermo-Gel® Class-A flame retardant is a perishable chemical with a shelf-life of three years and does not carry a warranty.

Send mail to info@outdoorfireprotection.com
Copyright © 2005 Kaye Contracting Company ROC#214973
Last modified: July 20, 2008

Disclaimer:
Kaye Contracting Co. cannot guarantee that lives or property will be saved by using our systems. We guarantee that our systems will lower overall fire risk when properly designed, installed and maintained. The best safeguard for life and property is fire prevention.

Thermo-Gel® is designed to be ejected at two percentages, 1% for suppression and wet lines or 2% for home and structure protection and defensible perimeters. The product is to be used **only** with Thermo-Gel® equipment.

**Thermo-Gel® 5 Gallon Container**

- Part #: TG200L5
- Class A Fire Retardent Gel
- U.S. Forest Service Approved
- Meets NFPA 1150 Standard
- Each gallon covers approximately 1,000 square feet at 2% and 2,000 square feet at 1%.

http://www.outdoorfireprotection.com/miva/graphics/00000001/tgel_5galjug.jpg
Thermo-Gel 5 Gallon Home Kit

Spend more time spraying, less time changing jugs during emergencies.

Contains:
(1) 5 gallon container Thermo-Gel
(1) 15 or 30 gpm bale-style nozzle
(1) 5 gallon container backpack
(1) set nozzle adapters for 15gpm

http://www.outdoorfireprotection.com/miva/graphics/00000001/tgel_5gal_kit.jpg
The Periodic Table of Elements

Atomic Number = Number of Protons = Number of Electrons

Chemical Symbol

Chemical Name

Atomic Weight = Number of Protons + Number of Neutrons

METALS

NON-METALS

KEY

Solid at room temperature
Liquid at room temperature
Gas at room temperature
Radioactive
Artificially Made

The atomic weights listed on this Table of Elements have been rounded to the nearest whole number. As a result, this chart actually displays the mass number of a specific isotope for each element. An element's complete, unrounded atomic weight can be found on the It's Elemental web site: http://education.jlab.org/itselemental/index.html

http://education.jlab.org/

Last revised on July 16, 2009
### Chemical Elements Used in Steel

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron (Fe)</td>
<td>Iron is the single most important element in steel and comprises roughly 95% of the steel matrix. Other non-structural elements are listed below.</td>
</tr>
<tr>
<td>Carbon (C)</td>
<td>Increasing the amount of carbon increases the strength and lowers the ductility; current structural steels typically have carbon ranging from .05% to .25%.</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>Manganese has effects similar to those of carbon. It is usually used in amounts varying from .5 to 1.7% and is critical to the production process because of the way it combines with oxygen and sulfur.</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>Chromium is primarily used to increase corrosion resistance. In weathering steels, like ASTM A588, the chromium content varies from .1 to .9%.</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>Copper is also used for corrosion resistance. It is found in amounts not less than .2% for electric arc furnace (EAF) steel and about .02 to .03% for basic oxygen furnace (BOF) steel.</td>
</tr>
<tr>
<td>Silicon (Si)</td>
<td>Silicon is one of the two most important de-oxidizers of steel, meaning that it is very effective in removing oxygen from the steel during the pouring and solidification process. Typical content is from .1 to .4%.</td>
</tr>
<tr>
<td>Aluminum (Al)</td>
<td>Aluminum is the other de-oxidizer used to remove oxygen from steel (killed). It is also used for grain refinement.</td>
</tr>
<tr>
<td>Columbium</td>
<td>Columbium is used to enhance the strength of...</td>
</tr>
</tbody>
</table>
steel and is one of key elements in various HSLA grades. It has effects similar to those of manganese and vanadium and is often used in combination with vanadium. Due to weldability requirements, columbium is unused in amounts less than .05%, such as in A572, for example.

Molybdenum (Mo)  
This element especially increases the strength of steel at elevated temperatures, as well as providing corrosion resistance. Molybdenum is particularly applicable for certain types of A581 and A514 steel. In the latter, molybdenum content may be as high as .65%.

Nickel (Ni)  
Nickel is a powerful anti-corrosion agent and also is one of the most important elements for improving the fracture toughness of steel. Nickel contents vary between .25 and 1.5%, depending on the specifics of the steel.

Vanadium (V)  
Vanadium aids in the development of a tough, fine-grained steel structure. Vanadium is an important alloying element in HSLA steels, such as A572 and A588.

Sulfur (S) & Phosphorus (P)  
Both elements have detrimental effects on steel strength, but especially ductility and weldability of steel. Sulfur promotes segregation in the steel matrix. Sulfur and phosphorus are both restricted to no more than .04 to .05%.

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Si</th>
<th>Cu</th>
<th>Cr</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>A36 to 3/4&quot;</td>
<td>25% max</td>
<td></td>
<td>04 max</td>
<td>05 max</td>
<td>.4 max</td>
<td>.2 min*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A36 3/4 to 1-1/2</td>
<td>0.25</td>
<td>.8--1.2</td>
<td>0.04</td>
<td>0.05</td>
<td>0.4</td>
<td>.2*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A514-B to 1/1/4</td>
<td></td>
<td></td>
<td></td>
<td>A516-70 to 2&quot;</td>
<td>A572-50</td>
<td>A588-A</td>
<td></td>
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<tr>
<td></td>
<td>12--</td>
<td>.21</td>
<td>7--</td>
<td>1.0</td>
<td>0.035</td>
<td>0.035</td>
<td>.4--</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2--</td>
<td>.35</td>
<td>.15--</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.4--</td>
<td>.65</td>
<td>.3</td>
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<tr>
<td></td>
<td>0.28</td>
<td>.7--</td>
<td>0.35</td>
<td>0.035</td>
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<td>13--</td>
<td>.45</td>
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<tr>
<td></td>
<td></td>
<td>1.3</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>0.23</td>
<td>1.35</td>
<td>0.04</td>
<td>0.05</td>
<td>0.4</td>
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<tr>
<td></td>
<td>0.19</td>
<td>.8--</td>
<td>0.125</td>
<td>0.04</td>
<td>0.05</td>
<td>.3--</td>
<td>.25--</td>
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<tr>
<td></td>
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<td>1.25</td>
<td></td>
<td></td>
<td></td>
<td>.65</td>
<td>.4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>.65</td>
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</tr>
</tbody>
</table>

* when specified

Intsel Steel West
1887 South 700 West, Salt Lake City, UT 84104
Phone: (800) 649-4248 or (801) 973-0911 Fax: (801) 972-6145

A subsidiary of Triple-S Steel Supply

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\[ \frac{4}{7} \]

\[ 6 \times 1 = 6 \]

\[ 18 \times 3 = 54 \]

\[ 12 \times 17 = 204 \]

\[ 16 \times 26 = 416 \]

\[ 21 \times 18 = 378 \]

\[ 16 \times 5 = 80 \]

\[ 16 \times 3 = 48 \]

\[ 4 \times 18 = 72 \]

\[ 4 \times 17 = 68 \]
<table>
<thead>
<tr>
<th>New Sample Plot</th>
<th>Results</th>
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<tbody>
<tr>
<td>1</td>
<td>4 small pellets</td>
</tr>
<tr>
<td>2</td>
<td>3 small</td>
</tr>
<tr>
<td>3</td>
<td>6 very small</td>
</tr>
<tr>
<td>4</td>
<td>4 small</td>
</tr>
<tr>
<td>5</td>
<td>3 very small</td>
</tr>
<tr>
<td>6</td>
<td>2 medium &amp; small</td>
</tr>
<tr>
<td>7</td>
<td>1 small</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>1 small</td>
</tr>
<tr>
<td>10</td>
<td>1 very small</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
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<td>12</td>
<td>1 small</td>
</tr>
<tr>
<td>13</td>
<td>1 small</td>
</tr>
<tr>
<td>14</td>
<td>1 small</td>
</tr>
<tr>
<td>15</td>
<td>2 red</td>
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<td>16</td>
<td>1 small</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>0</td>
</tr>
</tbody>
</table>

P.O.O: 5/6
Sample Site 19+ 

12 1 lg. 2 medium 9 small & very small
8 small
Sample Site $\frac{1}{2}$ (7'4" above pad) & very small
WITNESS INFORMATION

TO BE CREATED