6/26/90 1245

After their break the Perryville Crew was instructed by Ashby to improve the line down Walk Moore Canyon for a burnout. They began working below the Alpine Crew. TaTour could see the fire in the distance above them and watched the slurry drops being conducted. LaTour saw a slurry drop to the East of them. Some runs out well above Bonita Creek on the other side of Walk Moore. Ashby alerted them to watch for spot fires, the crew was notified and they began to watch for them. Fire would come to a ridge and then die down. LaTour asked Ashby for water but it did not come. LaTour sent Terra to get water, which was delivered by ATV. The Zigzag and Redmond crews passed them going up the line. Latour had the crew spread out and watching for spots. Ashby called to be shure they were spread out, watching for spots and improving the line. LaTour could see the main fire slowly coming down but not in their drainage. LaTour ate lunch with an Alpine Hotshot Crew leader. There was some wind, squirly with some spots showing up in the drainage. He put the crew back to work improving line. Ashby called and said to stay below the Alpine Crew. They had about a 200 yard gap between them. About 1230 to 1245 it rained. About a half hour before the fire LaTour heard some radio talk about bombing Fuller Canyon which was West of them. MOI, page(s) , Document No. 17.

Comments: LaTour's MOI indicates Yellowstone, Oregon and other experience.

6/26/90 1250

Cooke and Velasco discussed hazards at the Bonita Creek subdivision. Cooke made contact with Ops Chief VanTilborg who was checking the burnout around the subdivision. At about 1250 to 1300 Cooke assigned Bead to the West side Gatewood to the East side of the fire and Whitney was to protect the subdivision structures and conduct the burnout. Cooke then walked down toward Walk Moore Canyon and met with Engine Strike Team Leader Scopa. Velasco was walking up the Canyon and they met part way. Cooke MOI, page(s) 1, Document No. 4.

Comments:

6/26/90 1250

At approximately 1250 on June 26, 1990 Cooke assigned Division Supervisor Whitney responsibility for Bonita Creek subdivision protection and Division Supervisor Gatewood responsibility for line work to the Northeast. Accident Investigation Report, page(s) 6, Document No. 2.

Comments: According to the Report at page 6 Gatewood did not understand he was in charge of the segment of Division E where Perryville and Navajo 2 were working. Cooke and Gatewood both confirm he only sent Gatewood East and never told him he was in

charge of "Division E" or the Walkmore area. AIR is in error here.

6/26/90 1255

Gatewood's primary objective was to continue the work started by the Class II Team, to continue line construction from the North East corner of the Bonita Creek subdivision. Gatewood MOI, page(s) 1, Document No. 9.

Comments:

6/26/90 1300

Class II Division Supervisor Gil had trouble holding the line all morning. They lost a spot which they planned to line later in the day with a dozer. A drizzle started shortly after 1300 from a cumulus cloud. Thunderstorm winds occurred in the camp. Gil MOI, page(s) 1, Document No. 10.

Comments: Except possibly a spot to the Northeast, all the spots were between dozer line and main fire except one small one East of the corner house and North of the road, West of the dozer line (surrounded by line) long before blowup, and was easily put out with water.

6/26/90 1300

Melcher, the Class I FBA, went to look for Berkovitz who had just been assigned to the fire. Melcher went to lunch after 1300. A convection column was building. At 1315 there were gusty winds in camp, like from a thunderhead. There were 5 to 6 drops of rain in camp. He took his truck to Payson and was in a rain shower for a half to three quarters of a mile which required use of the wipers. He was at the District office when he heard there was a deployment. MOI, page(s) 1-2, Document No. 20.

Comments: Melcher gives post deployment details in this MOI and location of Berkovitz at camp.

6/26/90 1300

Farnsworth went back to camp for lunch about 1200 with Melcher looking for Berkovitz. The fire was active with some good smoke columns developing. From 1300 to 1330 they returned to Payson. He noticed some cumulus development East and Northeast of the fire. They had a good rain shower on the way to Payson. He noticed the sky was very grey by the fire and believed the fire might get some rain. He was just getting started with Berkovitz on some forecasting when he heard of the deployment. He and Melcher drove to Whispering Pines subdivision and observed a large column of smoke in the Bonita Estates area moving perhaps 10 to 25 chains per hour to the South Southeast. They drove into the fire and helped four Perryville crewmembers out. He noticed a clap of thunder and

a wind shift from the North to the East. While protecting a dozer back at the edge of the fire he noticed the fire front advancing from the North Northeast. notes, page(s) 3, Document No. 93.

Comments: Feet per minute equals 1.1 times chains per hour.

6/26/90 1300

Redmond belt weather observations at 1300 were 90 dry, 58 wet, 13RH and winds 1-3 upslope. Belt Weather Observations, page(s) 1, Document No. 115.

Comments: This is their first entry. Temperature lower than other crews recorded earlier. Alpine recorded 88 degrees at 1310, down from 96 at 1230. A similar temperature drop occurred at 0900 to 0930.

6/26/90 1300

Jim Mattingly, the Alpine Hotshot Foreman, programmed the Perryville radio to match his. It worked OK but not all the time. At 1300 to 1330 the spot really went. They fought the spot inside the burn. At 1350 to 1400 Mattingly noted major wind gusts. They moved back to improve the line. He tried to contact the Perryville crew but got no response. He walked up the trail 25 feet behind Gleason and Linse. The handline around the homes helped give them direction to the safety zone. Hatch came out of the smoke at 1433 according to Mattingly's fast watch. Hatch said he was the last in line. Mattingly walked about 120 feet to the corner of the line, looked, then the fire really started to cook and they got to safety. The fire kept coming, not as a wall of flames but in finger runs up the slope. Mattingly MOI, page(s) 1-2, Document No. 19.

Comments: Finger runs indicate low intensity fire driven by strong winds per Andrews' January 1986 publication BEHAVE (etc), BURN Subsystem, Part 1, page 11.

6/26/90 1300

Butch VanTilborg, Operations Section Chief for the Class II Team, worked together with Dundas during the first shift on June 26, 1990. They concentrated efforts on the Bonita area. Eckstein and Gil were monitoring the firing operations. Ashby had the crews and State structural engines in Bonita Creek. VanTilborg turned responsibility over to Cooke at about 1330. VanTilborg did not work directly with airattack or the lead plane. He worked through Glen Dundas for any air operations. As he was returning to camp he saw a spot fire over the Control Road. VanTilborg MOI, page(s) 1-2, Document No. 29.

Comments:

6/26/90 1300

LaTour called Ashby requesting water. Ashby asked Eckstein to call in an order for 200 sandwiches and 200 gallons of water. Latour called him again later, still on the mutual aid frequency, and requested Ashby to call in the head count to DOC. Ashby called operations to have them relay the count to DOC. my notes with Ashby, page(s) , Document No. .

Comments:

6/26/90 1300

At about 1300 a few drops of rain fell on Mark Tiffany at Walk Moore Canyon and the Control Road. Tiffany MOI, page(s) , Document No. 27.

Comments:

6/26/90 1300

LaTour was aware of two spot fires between the dozer line and the drainage. He heard about the first one, he saw the second one about 1300. He also heard on the radio of several spot fires in the area of the subdivision. LaTour Depo, page(s) 111, 113-115, Document No. .

Comments:

6/26/90 1310

At about 1310 to 1315 a few sprinkles of rain occurred in the fire area on June 26, 1990. , page(s) , Document No. .

Comments:

6/26/90 1310

Mattingly recorded rain drops at 1310 in his belt weather record. Mattingly MOI, page(s) , Document No. .

Comments:

6/26/90 1310

At 1310 Alpine Hotshots recorded 88 degrees and 24 RH. Fire Behavior Analysis, page(s) , Document No. 105.

Comments: Temperature dropped from 96 at 1230 and humidity rose from 13 at 1230. A similar event occurred between 0900 and 0930, 90 to 80 and 17 to 24.

6/26/90 1315

At about 1315 Mattingly was still observing the main fire flaring and backing down off the ridge to the North. He walked

West down the line about 400 to 500 feet from the last Alpine Crewmember to the Perryville Crew which was spread out in a holding pattern about 50 feet apart. Mattingly noted a woman among the crew and met the crew supervisor about halfway through the crew. They discussed the burnout operation, the main fire on the ridge, and asked if they would start in with the same type of ladder fuel reduction the Alpine Crew had been doing to improve the line. The supervisor agreed and left to get the Perryville crew moving on this work. Mattingly sat down for about 10 minutes when Velasco came up the dozer line, and they talked for a few minutes about other fires and how Mark Kaib, a former Payson Hotshot, was doing on Alpine. After Velasco left the Perryville supervisor walked down and Mattingly reprogrammed LaTour's king radio for him and checked it against his and it worked. At about this time Kaib called and requested that he move the six-pac back to the control road with the other Alpine Vehicles, and Mattingly told him to go ahead. Mattingly Narrative, page(s) , Document No. 94.

Comments:

6/26/90 1315

The Navajo Crew brought a King radio with them from Fort Defiance. It was cloned by communications at the fire camp at about 0700. The Navajo Crew was told to contact VanTilborg at Bonita Creek. At about 1130 Navajo Crew arrived at Bonita Creek and VanTilborg was not there. At about 1200 the Crew went back to the Control Road, Road 64, where they met VanTilborg, the Class II Operations Section Chief, at the intersection. He briefed Dave Dennison and Louis Sorrell of the Navajo Crew and gave them instructions on where to work. At about 1230 the Navajo Crew reached the Perryville Crew. Sorrell met with Dave LaTour. They exchanged fire status, weather conditions, watch out situations and escape routes. At about 1315 Sorrell strung out his crew down the dozer line. He warned them of slurry drops, sudden wind changes and what a dangerous place they were in, and the escape route. He walked the line a few times. Chronology, page(s) 1, Document No. 24.

Comments:

6/26/90 1315

At 1315 to 1330 the crew sequence down Walk Moore Canyon was Alpine, Perryville and Navajo. No burnout was taking place there. The fire was backing down across the Canyon about one third the way down from the top. Vegetation in Walkmoore was much lighter than above. Air turbulence was also less. While walking down Walkmore (about 1410) Cooke heard a radio report that the fire had crossed the Control Road. Cooke arrived with Velasco at the Control Road about 1415. Cooke MOI, page(s) 2, Document No. 4.

Comments:

6/26/90 1315

At about 1315 Melcher noticed gusty winds in fire camp. There were a few drops of rain. Melcher MOI, page(s) , Document No. 20.

Comments:

6/26/90 1315

Sprinkles of rain on fire personnel at about 1310 to 1315 indicated that the convective cell was beginning to develop some downdrafts although no significant surface winds were being reported. Aerial observations at that time indicated that the convective cell was still developing vertically. Dude Fire Weather Overview, page(s) 1, Document No. 107.

Comments:

6/26/90 1315

At about 1315 downdraft winds were felt at fire camp with some light rain. Fire Behavior Narrative, page(s) 2, Document No. 68.

Comments:

6/26/90 1315

At 1315 Mattingly from Alpine programmed 171.550 (actually 171.500) into a Perryville Crew Boss's King radio and checked it to make sure it worked. Linse Chronology, page(s) 3, Document No. 100.

Comments: Per Linse Chronology

6/26/90 1323

Flathead belt weather observations at 1323 were 105 dry, 64 wet, 11RH and winds S,SW swirling picking up 5-10 mph. Belt Weather Observations, page(s) 2, Document No. 115.

Comments:

6/26/90 1323

Linse's belt weather observations at 1323 were Dry 102, Wet 64, RH 11, Wind 5-10 360 variable. Linse's report, page(s) 4, Document No. 89.

Comments:

6/26/90 1326

At 1326 helicopter N40MC piloted by Dean Battersby departed the helibase for Division C with an external sling of lunches,

returning at 1359. Helicopter Manifest, page(s) 3, Document No. 116.

Comments:

6/26/90 1330

About 1300 to 1330 Ashby talked to Whitney who had been shadowing since about 1000. Ashby told him that Perryville and Navajo were down below in Walkmore and Navajo was the last crew. Because Whitney had the BIFC frequences Ashby told him he could contact the crews through Scopa. Ashby also asked Whitney if the crews would be relieved because the Prescott crew had been on the fire since initial attack the day before. After they discussed the transition Whitney released Ashby. Interview notes with Ashby, page(s) , Document No. .

Comments:

6/26/90 1330

Redmond Hotshots completed the burnout around the corner house that had the handline around it. Zigzag Hotshots took over the burnout and continued down the dozer line at about 1330. Linse Chronology, page(s) 2, Document No. 100.

Comments: Linse's report, prepared for teaching purposes, mentions rain during a 15 minute period and smoke from an inversion. Prescott Crew recalls a few drops of rain and clear sky above the smoke without an inversion.

6/26/90 1330

VanTilborg turned responsibility over to Cooke at about 1330. MOI, page(s) , Document No. 29.

Comments:

6/26/90 1330

At about 1315 to 1330 Dundas pulled West side crews back from their burnout operation on the Southwest side because it was apparent they would not be able to contain the fire and should let it go on down toward the Control Road rather than try to build new line East to Bonita. Dundas MOI, page(s) , Document No. 6.

Comments: This was not an evacuation, only a tactical decision to discontinue a burnout operation.

6/26/90 1330

Linse's report noted a thunderstorm overhead at 1330. Linse's report, page(s) 4, Document No. 98.

Comments:

6/26/90 1335

It sprinkled on LaTour briefly at the Perryville crew about an hour to an hour and a half before the blowup. The Navajo Scouts 2 were arriving then. LaTour discussed the sprinkle with his crew and with the Navajo Crew, that there was a possibility of thunderstorms, and he continued to watch for thunderstorm indicators. LaTour Depo, page(s) 135-136, Document No. .

Comments: According to the MOIs of crewmembers, Bachman said to several crewmembers she hoped it would rain.

6/26/90 1335

The possibility of thunderstorms did not prompt LaTour to remove his crew because the fire was West of them on the ridge and above to the North of them and he did not believe they were in jeopardy, and believed a thunderstorm would not threaten them. LaTour Depo, page(s) 136-139, Document No. .

Comments:

6/26/90 1335

Redmond belt weather observations at 1335 were 98 dry, 61 wet, 40RH and winds calm, upslope. Belt Weather Observations, page(s) 1, Document No. 115.

Comments: Highest RH recorded that day.

6/26/90 1340

The Central Yavapai water tender was operated by Rick Fergusson with Bill Barringer, Bill Tidwell and Brian Wilharm. About 45 minutes to an hour before the blowup they brought a load of water from the East Verde to the subdivision. There was no spot fire South of the Control Road and they did not see any thunderstorm activity (1325-1340). After unloading the water at the corner house they followed a Forest Service unit to try to draft water from Bonita Creek near the center of the subdivision. Fergusson Interview, page(s) , Document No. .

Comments:

6/26/90 1345

Before Scopa walked down to see LaTour he drove up to a higher house in the subdivision and looked at the fire. The main fire was still to the North of the subdivision and may have also been on the ridge to the West of the corner house but there was no fire to the Southwest of the corner house. He then drove back down to the corner house to walk down to LaTour. my interview with Scopa,

page(s) , Document No. .

Comments:

6/26/90 1345

At about 1345 to 1400 Mattingly left the Perryville Supervisor and walked on west down the line through the Perryville Crew and into the Navajo Scouts 2. There was no significant gap betwen them. The main fire on the ridge, now to the Northwest of them, was still actively burning about midslope with smoke blowing in a Northwest direction. It appeared to be a little closer to the dozer line at this location but of no immediate threat to the line. The last Navajo Scout to the Southwest was the Crew Supervisor. Mattingly asked if they could work on the ladder fuels and they agreed to do what they could even without saws, and they began doing so. At about this time Kaib called to report he had returned the six pac to the original location on the Control Road. , page(s) , Document No. 94.

Comments:

6/26/90 1345

Dundas flew the fire with Leech. Dundas talked to George Leech about fire behavior. MOI, page(s) 1-2, Document No. 6.

Comments: MOI mistates what he did and why. Dundas did not say winds were downslope from a thunderstorm. Dundas also talks about how long the crews were on the line. Time estimate is too early in MOI (1330).

6/26/90 1345

At about 1300 the Perryville Crew had run out of water which was ordered through LaTour. None arrived in over 45 minutes. Terra made contact with Scopa who asked to use his radio. Terra discussed with Scopa and LaTour his concerns about the canopy over the dozer line. Terra then took Fred Hill to get water and chainsaw fuel from the vehicles on the Control Road. He left his radio with Sandra Bachman who was to be in charge. He also sent two 2 person lookouts to check the fire before he left to get water. The lookouts scouted and returned to the line. Terra passed LaTour on the way down and noticed an air tanker had dropped retardant on him. An ATV took the water up and dropped it off. MOI, page(s) , Document No. 26.

Comments:

6/26/90 1345

It rained on Hill as he and Terra were walking down the line to get the water. Taped Interview, page(s) , Document No. 126.

Comments:

6/26/90 1345

About a half hour before the blowup there were about five drops of rain on Gleason near the corner house. my notes, page(s) 3, Document No. .

Comments:

6/26/90 1345

The Perryville Crew was located about one third the way down the canyon when they ran out of water. Crew Boss Larry Terra took Crew Member Fred Hill down to the Control Road to get water (about 1345), leaving Assistant Crew Boss Sandra Bachman in charge with Crew Representative Dave LaTour. Terra sent the water up the line with an all terrain vehicle and began walking back up the line with Hill. AIR, page(s) 11, Document No. 2.

Comments:

6/26/90 1348

Helicopter C-FARC piloted by Les Hanberg left the Dude Helibase at 1348 to make water drops on Division A, and returned at 1419 according to the Helicopter Manifest recorded by Del Henderson. Hanberg did not notice any unusual weather or clouds. He returned to refuel at 1419. It was windier on top of the Rim than below the Rim. Helicopter Manifest, page(s) 1, Document No. 116.

Comments:

6/26/90 1350

It rained on Carrillo and Bachman 20 to 30 minutes before the blowup and Bachman told Carrillo she hoped it would rain some more to help put the fire out. Carrillo and Guy Taped Interview, page(s) , Document No. 128.

Comments:

6/26/90 1350

At about 1350 LaTour heard some radio talk about bombing Fuller Canyon which was to the West of them. MOI, page(s) , Document No. 17.

Comments:

6/26/90 1350

By 1350 there had been talk about possible evacuation of the

homes on the West side of the fire. There were a few small scattered clouds South of the fire. Stutzman video, page(s) , Document No. .

Comments:

6/26/90 1355

At 1355 Safety Officer Shelton inspected Division A and noted lookouts posted. At 1800 he hiked out to DP 106. Unit Log, page(s) 1-2, Document No. 79.

Comments:

6/26/90 1355

Scopa walked down to the Perryville Crew and told LaTour they were bringing the hose lay on down to their location. They discussed the fire and the radio frequencies and made some small talk. Scopa's radio batteries were getting low so he borrowed a Perryville radio to make a call. Scopa also had a radio in his truck. Scopa noticed that the line needed more fuel treatment work but decided to discuss it with Whitney rather than LaTour. Light upslope winds were keeping the area free of smoke. Alpine was just above Perryville where crewmembers could see each other. Scopa did not see the Navajo Crew. Scopa then left for the corner house. Interview notes with Scopa, page(s) , Document No. .

Comments: Terra recalls he loaned radio to Scopa.

6/26/90 1359

At 1359 helicopter N-40MC piloted by Dean Battersby which had gone to Division C with an external sling of lunches returned to the helibase. He made a second trip later. Helicopter Manifest, page(s) 3, Document No. 116.

Comments:

6/26/90 1359

The lowest Prescott Crewmembers were about where the fenceline crossed the dozer line when Velasco was walking up and down the line. Interview Notes with Velasco, page(s) 2, Document No. .

Comments:

6/26/90 1400

Before the blowup Leech observed that the fire perimeter did not have ragged edges, except for a few doglegs on the West side of the fire. Leech Interview, page(s) 1, Document No. .

Comments:

6/26/90 1400

The Alpine Crew was bucking logs about 50 to 100 yards up the dozer line from the Perryville Crew. Interview notes with Velasco, page(s) 2, Document No. .

Comments: This evidence was included in a video taken by state's investigator on field trip 3/12/92.

6/26/90 1400

During the helicopter flight Dundas first checked the West side because he had fewer overhead there, with the priority being the Bonita Creek subdivision where most of the overhead was. He then checked the burnout around the subdivision. The operation was hot but was going OK. They would not have continued if the winds were strong and he decided not to change the tactics, but to continue with the burnout to protect the subdivision. There was no rain or unusual wind during the flight except some gusts on the way back to the helibase. The air tankers were being used on a division other than Bonita Creek. Interview notes with Dundas, page(s) , Document No. .

Comments: He was on Bray fire 2 weeks before. Arrived night before and Wagenfehr flew fire and decided on Class I Team. Did the usual transition from the Forest despite incoming Class I Team. Nothing out of ordinary that day, just a fast moving fire until blowup.

6/26/90 1400

At 1400 Alpine hotshots recorded 87 degrees and 21 RH. Fir Behavior Analysis, page(s) , Document No. 105.

Comments:

6/26/90 1400

On June 26, 1990 strong high pressure persisted over Arizona, with 122 degrees in Phoenix and 106 degrees in Payson. Atmospheric moisture was quite limited but enough for a threat of some thunderstorm activity over mountainous areas such as the Rim. Satellite photos indicate convective buildups beginning as early as 1000 with the heaviest activity over the White Mountains 50 miles to the East of the fire. A large convective area matured over the White Mountains a few hours before the blowup. Satellite imagery does indicate a weak convective outflow boundary from this complex reaching the fire at about 1400. Dude Fire Weather Overview, page(s) 1, Document No. 107.

Comments: Goens says this outflow boundary did not cause the downburst from the convective column of the fire.

6/26/90 1400

On the north side of the fire along the Rim indrafts were consistently spilling off the Rim into the main fire area during the morning and early afternoon. Dude Fire Weather Overview, page(s) 2, Document No. 107.

Comments: As noted by Goens, this is visible in the Coconino tapes. Became very strong at time of deployment. Goens says these appear to be indraft surface winds.

6/26/90 1400

Fire spread and intensity were within the range of control by handcrews from 0500 to 1400 on June 26, 1990. Dry, heavy dead and down fuels contributed to development of the convection column. At the time of the blowup, weather (wind) totally dominated the fire environment. The fire spread approximately 1.5 miles during the first half hour of the strong wind event. The fire crossed Walk Moore Canyon during this time, flashing from the West side to the East side of the Canyon, followed immediately by burning of the surface fuels. AIR, page(s) 8, Document No. 2.

Comments: Andrews ran the calculations concerning behavior and ability to control with hand crews. Her underlying report and photos show set of needles indicating wind driven fire approached crew from west to east, while some leaves contra in ladder fuels down in the canyon indicating turbulence or direction change. Her report notes spread rate of flash fire across canyon much greater than hour-long rate.

6/26/90 1400

Prior to the deployment TV 12 News was interviewing a Hotshot Crewmember from Montana and remarked that it had gotten cooler in the Bonita Creek subdivision area. Video, page(s) , Document No. 1.

Comments: Several crewmembers also remark that the fire is a normal fire, terrain flat relative to their home territory, vegetation not as thick as other fires. Time is not certain because of breaks in filming.

6/26/90 1400

Mattingly's belt weather observations were taken on the fire at 0810, 0900, 0930, 1000, 1100, 1130, 1230, 1300, 1310, 1400. Rain drops were recorded at 1310. Erratic (speed and direction) winds were recorded 1230 to 1400. At 1400 a note of gusty winds, 5 to 10 second gusts was recorded. It was dead calm for 5 to 10 minutes just before blowup. MOI, page(s) 1, Document No. 19.

Comments: This data is in Mattingly's MOI. Says records are in Fire Weather Meteorologist's report. Unable to find them there. Andrews' working papers list Alpine observations including a change from 1230 (96 and 13RH) to 1310 (88 and 24RH) and 1400 (87 and

21RH). Redmond also recorded 90 at 1300. TV 12 video includes a remark about getting cooler. A similar event occurred at 0900 to 0930 with lower temperature and increased humidity from previous readings.

6/26/90 1400

Bob Scopa, Engine Strike Team Leader at Bonita Creek, was operating on the interagency NIIMS Frequency 154.280. He had talked with the Crew Rep for Perryville (LaTour) when the transition occurred. He was laying a hose line to the area of the Perryville crew and talked to LaTour at the fireline about 15 minutes before the blowup. He received a call on that frequency that the Perryville Crew deployed. He obtained a tactical radio from the PAO (Pete Libby) at the Bonita Safety Zone and called Supervisor Whitney (and Operations) to report the deployment (actually reaching Cooke). He then assisted in carrying Hatch to safety. As they carried Hatch up the line on a back board the fire continued to make a run on them and they questioned whether they could continue to haul Hatch and save themselves. They made it to the safety zone. MOI, page(s) 1-2, Document No. 23.

Comments: TV 12 video shows his calls to Whitney or Cooke, and that he actually reached Cooke

6/26/90 1400

As of 1300 on June 26, 1990 the Class I Incident Commander was delegated authority over the fire, accountable to the Forest Supervisor's designated representative, Bob Wagenfehr. Escaped Fire Situation Analysis Form, Tonto National Forest Large Fire Line Direction For The Incident Commander, page(s) 13, Document No. 96.

Comments: Hollenshead and Shaw transitioned at 1400.

6/26/90 1400

Ashby was in the Bonita area very early in the morning. During the morning he called into the Command to ask what his assignment was going to be, and was assigned. The first hand crew he had was Perryville and others joined them later, including Navajo 2. He had a King, was using the state mutual aid frequency, 154.280, and was monitoring the Tonto Fire Net. He transitioned with Whitney and went over a list of crews with him, then left. While on the Control Road he called VanTilborg to report a sloppover. He heard of the entrapment on the radio and returned to the Walkmore area. He did not hear Whitney's transmission. Interview notes with Ashby, page(s) , Document No. .

Comments: Whitney says he had a king (with BIFC frequencies). Ashby did not yet know how to reprogram his new King and LaTour had reprogrammed it for him with the Mutual Aid Frequency. Surprise Fire Dept. was also on the Control Road at the time of the entrapment.

6/26/90 1400

The two command staffs met for official turnover. Fire activity seemed light throughout the morning with line construction and burnout going well. There were numerous cumulus buildups in the area. Dude Fire Narrative, page(s) 1, Document No. 59.

Comments: Hollenshead transitioned with Shaw at 1400 sharp.

6/26/90 1400

At 1400 sharp Hollenshead met with Shaw at the fire camp and completed the transition. Dundas and Leech were still up in the helicopter. Hollenshead interview, page(s) , Document No. .

Comments:

6/26/90 1400

At about 1400 winds were calm, the fire was backing down toward Walkmore 200 to 300 yards from Perryville. Flathead and Zigzag were conducting the burnout down into Walkmore. Scopa had met with LaTour at Perryville re the hose line and was probably walking out to the corner house again. Cooke, Velasco and Mattingly were with Perryville and Navajo 2. Tiffany was at the Control Road watching the fire come down. Heger, Johnston and the Heber engines were watching the fire from along the Control Road. Sorrell was directing his crew with the new orders. Terra and Hill were walking back up. Ashby was leaving the subdivision. VanTilborg may have been leaving Bonita about now. Dundas and Leech were in the air along with both airattack planes. Pensyl was making water drops with his helicopter near the subdivision burnout operation. Piechura was returning from camp. Neither Piechura, Johnston, Heger, Heber, Yavapai Water Tender, Tiffany, Birgam nor anyone else had seen any spot fire below the Control Road. Battersby was delivering lunches to the top of the Rim in his helicopter. Hanberg was dropping water on the West side with his helicopter. Tankers and the lead plane were also present. Summary, page(s) , Document No. .

Comments:

6/26/90 1400

Before the water arrived, it sprinkled rain on Hoke for about a good 10 minutes. Taped Interview, page(s) , Document No. 125.

Comments:

6/26/90 1400

Stutzman's video before the downburst from Lester's cabin on the West side of the fire shows a cumulus buildup in the distance North of the fire North of the Rim, and a few widely scattered

small clouds South of the fire. Stutzman Video, page(s) , Document No. .

Comments:

6/26/90 1400

Before they bumped in with the Navajo Crew, it sprinkled rain on Flippen for 1 to 2 minutes. Taped Interview, page(s) , Document No. 124.

Comments:

6/26/90 1400

It rained on Enriquez before the blowup, about 2:00 but he is not sure what time it was. Taped Interview, page(s) , Document No. 127.

Comments:

6/26/90 1400

Mark Tiffany, Payson Engine 438 Crew Foreman, was stationed at the Control Road and Walk Moore Canyon at 1100 when a spot fire was reported. Winds were NE about 5 mph along the road. At 1300 a few sprinkles of rain occurred. At 1400 the winds were calm. At about 1430 there was a rapid wind shift to the NW at 30 plus mph. The engine left the scene 2 1/2 to 3 minutes later as fire was everywhere. MOI, page(s) 1, Document No. 27.

Comments: Mark has another MOI, longer, gives spot time as 1000 or 1100 but he has cleared this up in interview. This was probably one of the spots near the burnout or the Walkmore dozer line. The spot across the Control Road was reported a few minutes before the blowup hit his area.

6/26/90 1400

Redmond belt weather observations at 1400 were blank for dry, 60 for wet, 4RH and winds calm, upslope. Belt Weather Observations, page(s) 1, Document No. 115.

Comments:

6/26/90 1400

Gila County Deputy Sheriff Bob Birgam was sitting on the porch at Bonita Ranch near the Southwest corner of the subdivision, from where he could see Walkmore Canyon. The fire was to the Northwest. The wind was coming from the South going to the Northeast. He left to drive to Whispering Pines, driving West on the Control Road. Birgam MOI and reinterview, page(s) 1, Document No. 109.

Comments:

6/26/90 1405

As Scopa was walking back out to the corner house from Perryville he called Whitney or Cooke to discuss the need to improve the line down the drainage. He was told to grab one of the Hotshot crews and get them to clean up the line. When Scopa reached the corner house he left (about 1413) to pick up the food and water for Glendale from Walkmore and the Control Road. Ashby was there with the supplies at Walkmore. my notes with Scopa, page(s) , Document No. .

Comments: Did Piechura drop off these supplies?

6/26/90 1405

All air traffic stopped and it sprinkled rain on Terra and Hill as they returned up the dozer line. Terra MOI, page(s) , Document No. 26.

Comments: Others report hearing choppers just before blowup.

6/26/90 1410

Bill Wadsworth was the Helitack Foreman with helicopter N40MC piloted by Dean Battersby. They had been delivering lunches. The weather had been hot and dry with some wind but not severe or erratic. Within minutes a storm cell moved over the helibase from the South toward the fire accompanied by real strong winds. This was before the blowup. Wadswoth interview notes, page(s) 1, Document No. .

Comments:

6/26/90 1410

Alpine Hotshot Foreman Mattingly programmed a Perryville radio to match his. It worked OK but not all the time. MOI, page(s) , Document No. 19.

Comments: Mattingly's Narrative times this as 1315 rather than 1410 in the MOI. Mattingly has explained that he programmed the radio on his way down the line and then returned at about 1410 and introduced himself by name. LaTour had a Johnson brand radio rather than a King, (King took over Johnson).

6/26/90 1410

A spot fire was reported south of the Control Road on the West side of the fire. AIR, page(s) 11, Document No. 2.

Comments: AIR says 1345 but witnesses and sequence say 1410. Leech recalls a Forest Service engine and crew responded. The spot was

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Comments: AIR says 1345 but witnesses and sequence say 1410. Leech recalls a Forest Service engine and crew responded. The spot was

100 to 200 feet South of the road, 20 to 30 feet in diameter, 1 to 2 foot flame lengths in light fuels.

6/26/90 1410

VanTilborg called Whitney and reported the spot over the Control Road and the need to move the vehicles. Whitney was with Prescott at the time. Prescott HS Foreman Sciacca sent crewmembers to retrieve their vehicles from the intersection of the Control Road and Bonita road. Alpine drivers went with them. Whitney also left to check the spot at that time. As the Prescott, drivers arrived at the trucks fire was already at the Control Road. By then the blowup was in progress. They were unable to enter the subdivision until after the blowup ended. A water tender had been moved to block entry into the subdivision telling people to go East. Interview notes with Sciacca, page(s) , Document No. .

Comments:

6/26/90 1410

As Velasco walked up and down Walkmore he could see the main fire across the canyon from where Perryville was working. The fire was about a third of the way down the ridge backing into the mild wind with flame lengths about a foot. The fire was all along the ridge West and Northwest of the crew. The fire was a few hundred yards from the crew. There was no apparent unusual danger and the strategy to continue the burnout down the dozer line appeared to be appropriate. He had just heard a report of fire across the Control Road and was going to check it out. He and Cooke were also going to check the East side of the fire for new line locations to see where they might pinch off the fire there. Interview notes with Velasco, page(s) , Document No. .

Comments: Velasco showed this sequence on the 3/12/92 site visit.

6/26/90 1410

Whitney, Sciacca and Scopa were near the corner house when VanTilborg called to report the spot fire below the Control Road. Whitney interview notes, page(s) , Document No. .

Comments:

6/26/90 1410

After LaTour cloned the Navajo 2 radio that crew had communication with Perryville, Alpine and Blue Ridge and they were also receiving weather reports on another channel and air to ground. The crew were told to keep a lookout and let someone know if they left to go to the bathroom. Before the entrapment Jim Mattingly of the Alpine Crew came down and told them (Dennison) to swamp for the Perryville Crew and work together to widen the line

and remove the crown closure down to the Control Road. Dennison notes, page(s) , Document No. .

Comments:

6/26/90 1410

VanTilborg left the subdivision to return to camp. Gil called him and asked for a ride so he turned around on top of the ridge West of Walkmore, where he saw a spot fire South of the Control Road (about 1410), which he reported to Prescott and/or Whitney and discussed with Dundas. Interview Notes with VanTilborg, page(s) , Document No. .

Comments: VanTilborg's description of small spot is similar to Leech's and Dundas'.

6/26/90 1410

At about 1400 LaTour informed Sorrell of the duty change. Navajo was to help Perryville improve the dozer line. The Perryville crew had a couple of chain saws. At 1410 Sorrell walked back down the line to inform his crew and told them to move up the line to help the others. Chronology, page(s) 1, Document No. 24.

Comments: Sorrell notes at 1415 the fire had moved to the Southwest toward the control road.

6/26/90 1410

Between 1400 and 1415 a total absence of wind, a calm, was noted in Walkmore Canyon, followed by the blowup with the gust front from the collapsing convective cell created by the fire providing winds estimated from 40 to 60 miles per hour in the Walkmore Canyon area. Nearly all other areas of the fire experienced gusty winds flowing out from the center of the fire area, which is confirmed by the fire spread pattern. After the initial gust front, which only lasted 5 to 10 minutes, the collapsing convective cell provided winds of 20 to 30 mph for another 30 minutes or so. Dude Fire Weather Overview, page(s) 1, Document No. 107.

Comments: Report says Leech saw the ice about 1400 but Leech said in his MOI of 6/28/90 that he saw this on his way back out to the fire after the deployment. Goen's notes with Leech also record it was after blowup. Leech confirms it was 1430 - 1445. All cumulus clouds develop ice at -12 degrees C to -18 degrees C. An iced out top indicates the cell reached maximum development. Rothermel says he does not associate ice with downbursts in his works concerning the potential for downbursts in plume dominated fires. Haines says there was no way to predict a downburst from the convection column. Both Goens and Rothermel confirm that downbursts like this one are not common even under these circumstances, and the appropriate response is to be careful but not to stop fighting the fire unless

fire behavior actually changes and requires it. Experienced firefighters also confirm that they do not stop just because a downburst is possible. The calm indicates cessation of convective indrafts into the fire in that area. LaTour and others also say there were several similar calms during that day.

6/26/90 1410

Dundas turned responsibilities over to VanTilborg and returned to the helibase. MOI, page(s) 2, Document No. 6.

Comments:

6/26/90 1410

Dundas advised VanTilborg that the Control Road was not defensible as the fire had crossed it. Dundas MOI, page(s) 2, Document No. 6.

Comments: VanTilborg was already on road and saw a spot before Dundas called him. Dundas MOI estimated 1345 but Leech MOIs, others and sequence put it at 1410 or later.

6/26/90 1410

At about 1400 to 1415 Mattingly started walking back up the line past the Navajo Scouts 2. About the time he reached the Perryville Crew he met Velasco and Cooke who were walking briskly down the line. They stopped to talk very briefly and Velasco told him that Dundas had just reported that the fire had jumped the Control Road to the West and he and Cooke were on their way to check it out. Continuing up the line Mattingly noticed the Perryville Crew working, with none of the crew more than 15 feet inside the line. He stopped and talked again with LaTour at about 1410 about his crew "getting after it", and they both introduced themselves by name which they had not done before. At about this time (1410) Kaib called him again and recommended that the trucks be moved because the fire was getting more active down near the road. Mattingly told him to go ahead and hustle up some drivers if he could and do it. Mattingly Narrative, page(s) , Document No. 94.

Comments: Kaib was probably referring to the spot fire report. Alpine drivers went down to the trucks with Prescott in response to VanTilborg's call to Whitney who was with Prescott, per Sciacca. Linse may have also sent drivers down.

6/26/90 1410

Mike Hanna was driving the water up to Perryville when he passed Velasco. Interview notes with Hanna, page(s) 1, Document No. .

Comments:

6/26/90 1410

After reporting the spot fire across the Control Road to VanTilborg, Dundas continued flying the fire. The spot was about a mile west of the vehicles parked at Walkmore. It was about a hundred yards south of the road in the flats a long way from the main fire which was still to the North. He told VanTilborg that the vehicles should be moved. He Heard VanTilborg report the need to move the trucks, due to fire below the Control Road, to the Prescott Hotshots and others. my notes, page(s) 1, Document No. .

Comments: Sciacca was with Whitney when VanTilborg called with this message, and it would have been about 1410 or later, not likely much earlier.

6/26/90 1410

At 1410 helicopter N-40MC piloted by Dean Battersby left the helibase for Division C with lunch cargo, returning at 1430. Rules prohibited him from also carrying passengers. Helicopter Manifest, page(s) 3, Document No. 116.

Comments: This is probably the flight recorded on the Coconino video tape.

6/26/90 1410

Jim Landel was the mechanic for helicopter N40MC. They deliverd lunches that day and did no recon. The weather was calm until a gust front came through which nearly blew the tent down at the helibase. He later heard about the shelter deployment. The gust front winds blew in the general direction toward the fire. Interview notes with Landel, page(s) 1, Document No. .

Comments:

6/26/90 1413

Leech was in the air over Bonita Subdivision with Dundas about 10 minutes before the accident. The fire was backing down toward the subdivision. The fire was more active nearer the Rim. There was not much wind except very gusty winds for 2 to 3 minutes, 20 to 25 mph, on the way back to camp. There was a convection cell above the fire and some cumulous beginning to develop in the area, mostly Stage 1. They returned to camp after 1400 and when they reached Operations they were told of the deployment. Leech MOIs, page(s) , Document No. 112.

Comments:

6/26/90 1414

The NWS Observer in Payson, Anna Mae Demming, observed scattered clouds at 25000 feet at 0540 and 0746. At 0746 forest

fire smoke (FFK) was obscuring the Rim NW-SE, reducing visibility from the usual 30 to 20 miles. At 0945 FFK was in all quadrants, there were scattered clouds at 6000 feet and broken clouds at 25000 feet. At 1245 there were broken clouds at 5000 feet and 25000 feet, FFK and CB in all quadrants and 102 degrees, the first wind that day from 220 degrees (SW) at 7. There was no wind at 1414, broken clouds at 5000 feet, overcast at 25000 feet, 96 degrees, FFK obscuring Rim NE-E, CB in all quadrants. The high reached 106 at 1645, with a remark the highest ever recorded since records began in 1908. At 1645 FFK obscuring Rim NW-E, CB in all quadrants, pressure was falling (614), clouds were 1933 indicating the presence of low based CB. Surface Weather Observations, page(s) 2, Document No. 120.

Comments:

6/26/90 1414

The Navajo 2 Crew's Edison Notah was on a rise along the dozer line where they were working before the entrapment while they were mixed in with the Perryville crew helping that crew. Sorrell Chronology, page(s) , Document No. 24.

Comments:

6/26/90 1415

At about 1415 Cooke and Velasco reached the Control Road and Walkmore. Whitney was getting his truck in the subdivision. Leech and Dundas were returning to the helibase. Scopa was near the Control Road and Walkmore getting lunches. Ashby was there also. The drivers for Prescott, Alpine and maybe Flathead were headed for the Control Road to move their rigs. VanTilborg was returning to the subdivision to pick up Gil. Both Airattack planes were up transitioning at the Northwest side. The lead and tankers were also present. Pensyl was completing his water drop near the subdivision and returning to fill on top of the rim. Battersby was delivering lunches to the top of the Rim. Hanberg was completing water drops on the West side. Damerow's helicopter was at the helibase. Piechura had been dropping supplies from camp at the engines along the Control Road and was probably near the entrance to Bonita Creek by now because he had not seen any spot fire. Hanna had delivered the water to Perryville. Hill and Terra were walking up Walkmore. Birgam was leaving the Bonita Ranch to go West. Mattingly was walking back up toward Alpine. LaTour started walking up the line to check for spots. Sorrel noted the fire moved to the Southwest of them. , page(s) , Document No. .

Comments:

6/26/90 1415

At about 1415 Cooke and Velasco reached the Control Road having just walked down Walk Moore Canyon. They drove East and at

1423 he got a notice from an engine Strike Leader that they thought there was a shelter deployment. MOI, page(s) 2, Document No. 4.

Comments: Cooke says the fire was 200 to 300 yards from the line near Perryville burning downslope in light winds presenting no apparent problem for the burnout operation and no indication of a run like the one which occurred.

6/26/90 1415

Class II Division D Supervisor Gil heard Dundas report the fire had spotted across the Control Road (about 1410), which was supposed to be the last resort. Gil tried to leave Bonita Creek subdivision with several other people, including Whitney who wanted to check the road in his own truck, to return to camp. They found to their surprise that the subdivision was surrounded by fire. They returned and had two dozers build a safety zone in the black. MOI, page(s) 1, Document No. 10.

Comments:

6/26/90 1415

Pensyl took four photographs from his helicopter from the interior of the fire upwind from the Bonita subdivision looking toward the North. The photographs show the fire backing downhill into light wind with the smoke column drifting toward the South or East. Flame lenghts are longer than mature Ponderosa Pine trees on this side of the fire and there are wide continuous areas of active fire inward from the perimeter. Pensyl Photos, page(s) , Document No. .

Comments:

6/26/90 1415

There was virtually no fire spread to the North along the edge of the Rim during the blowup. This can be explained by the fact that the Rim area falls off steeply for nearly 1000 feet in about one half mile, then gradually slopes off another 600 feet in the next one and one half miles. The outflow boundary gust front which reached the fire at about 1400 followed the terrain and could be compared to pouring a glass of water onto a sloping surface. The cooler and more dense air followed the natural gravitational path of least resistance in spilling down the terrain. This is again verified by the fire spread pattern as the greatest spread was noted in the downslope direction. Dude Fire Weather Overview, page(s) 2, Document No. 107.

Comments: The outflow boundary gust front was from the convective complex over the White Mountains 50 miles to the East of the fire. Goens report says it may have contributed to indrafts from the north but also he says accident was caused by downburst, not by this cold air boundary.

6/26/90 1415

Fred Hill was walking back up the dozer line after sending up the water. It got dark and he looked at his watch and remarked "it's too dark to be 2:15". Hill MOI, page(s) 2, Document No. 111.

Comments: Terra recalls it was he who looked at his watch and made the remark.

6/26/90 1415

The main fire could be seen on the ridge to the West and to the North from all along the dozer line where Perryville was working in the afternoon. LaTour acted as a lookout, primarily for spot fires, and from time to time Terra, Bachman, Hatch and Denny were sent out to watch for spots, so that someone was doing so at all times. LaTour had gone up the hill while they were working on the powerline to look for spots. He would walk around to get a better view where foilage interfered, never getting more than 100 to 200 yards from the crew. He can't recall who, but someone was designated to watch for spots while he was above the crew when the blowup started. They used the more experienced people for lookouts. Where they were working when the fire blew up there was no reasonable place to post a lookout who would have had a better view of the fire. LaTour Depo, page(s) 55, 59-60, 71-73, 77-78, 88-93, 95-96, 98-99, 101, 168, 203, Document No. .

Comments:

6/26/90 1415

Gleason's Zigzag Crew was conducting the burnout along with the Flathead, Alpine and Redmond Crews. They were to burn a section then hand off the torch. They conducted the burnout in 150 to 200 foot strips perpendicular to the dozer line. This left a green patch. They tried to stay even with the main fire. He felt there was no effect on the main fire from the burnout operation. At about 1345 to 1400 some light rain fell and a thunder cell was observed in the area. At 1400 to 1415 there was a downdraft and they started breathing smoke from the burnout. MOI, page(s) , Document No. 11.

Comments: Gleason has 2 MOIs. He states there was a 10 MPH wind but time unclear. Note they anchored with the Control road.

6/26/90 1415

Sorrell noted that the fire had moved to the Southwest of them at about 1415. Chronology, page(s) 1, Document No. 24.

Comments:

6/26/90 1415

There had been various calms during the day. Sometimes the wind blew and sometimes it was calm. LaTour Depo, page(s) 139, 140-141, Document No. .

Comments:

6/26/90 1415

At 1400 to 1415 there was a downdraft and Gleason's Zigzag crew started breathing smoke from their burnout operation. Gleason MOI, page(s) , Document No. 11.

Comments:

6/26/90 1415

Dean Battersby was the pilot of helicopter N-40MC which had arrived the day of the entrapment. He was carrying a sling load of lunches to Division C. His second trip doing so was 1410 to 1430. He contacted the lead plane to let them know where he was. He went through the fire area to climb to 8000 feet. At about 8000 feet he experienced a downdraft and dropped several thousand feet at 3000 feet a minute. He contacted the helibase and asked for weather information. After he got out of the downdraft he climbed back up and looked for the people at his destination point, but they were gone. He found some people near some firetrucks, made inquiry, they offerred to take the supplies, he called the base and was told to keep looking, he flew the Rim several times unable to find them, brought the load to the people near the firetrucks and was jostled around by turbulence while dropping the load. He may have had trouble releasing this trip and had someone on the ground unhook the load as his release had failed. He did not see any other unusual weather and only heard about the wind at the helibase. Battersby interview notes, page(s) , Document No. .

Comments:

6/26/90 1415

Jeff Whitney, a Class I Division Supervisor assisted in protecting the subdivision and supervising the burnout operation being conducted on the Northwest end of the subdivision. He was heading Southeast in the subdivision to get his truck and he noticed fire on the South and East side of the subdivision (1426). He returned to the Northwest side of the subdivision, and ordered a safety zone built. MOI, page(s) 1-2, Document No. 30 and 31.

Comments: All the Category I Crews were communicating among themselves, Alpine, Prescott, etc. which he could monitor. His priority was set on a tactical freq. He can't recall which frequencies he was using. He did have a King radio and did get a response from Prescott to his advice to pull to the safety zone. Sciacca confirms this.

6/26/90 1415

The helicopter manifests show a time of 1340 regarding Division A water drops. Joe Pensyl, pilot of N49673, one of the 212s, was the only helicopter making drops during the entrapment. He had been dropping near the groundcrews burning out near the subdivision and had been instructed by them not to drop on their burnout. The weather was clear with maybe a few scattered clouds at best. The wind was South to North with occassional spotting. He had made a drop and filled his bucket on top of the Rim, flying around the column. During the 5 minutes he had left and returned the wind had shifted and was blowing smoke over the fireline. He jettisoned his water and flew under the smoke. The smoke was about 50 feet above the treetops. There was a wall of flame between the treetops and smoke as far as he could see either direction. He then flew around the East side of the fire and back into the burned part of the fire to look. The subdivision was no longer visible because of the smoke. He could not work or assist, he called airattack and the tankers told him to stay off the air so he returned to the helibase. Helicopter Manifest, page(s) 2, Document No. 116.

Comments:

6/26/90 1415

After Piechura dropped supplies at Johnston, Johnston's engine drove West on the Control Road (West of Fuller) to where they could see the fire was building. It was windy and the smoke was black and the fire was starting to spot across the road. The main fire was still to the North. Johnston interview notes, page(s) , Document No. .

Comments:

6/26/90 1418

An unburned strip of timber near the top of the ridge West of Walkmore Canyon indicates that the Horizontal Roll Vortex might have occurred. However, no other indicators were found. Fire Behavior Analysis, page(s) 4, Document No. 105.

Comments: Similar strips exist to the SE of the subdivision per Leech and aerial photo..

6/26/90 1418

The needle set indicates the fire spread to the East, but in one location near the deployment site the needle set of the overstory was to the East while the leaves of the shorter trees and bushes pointed West. Fire Behavior Analysis, page(s) 4, Document No. 105.

Comments:

6/26/90 1418

The fire behavior intensified rapidly and the fire began a major run towards the East and Bonita Creek Subdivision. Strong West winds were reported by various people at Bonita Creek Subdivision. Rates of spread were in excess of 200 chains per hour (13,200 feet per hour, 2.5 mph) with flame lengths of 300 feet observed by people at the scene. The fire continued with intense rapid spread in all directions. By 2100 it had spread 1.5 miles to the East and South, 2 miles Southwest and 1.75 miles Northwest. By 2100 the fire was 8-9 thousand acres. Fire Behavior Narrative, page(s) 2-3, Document No. 68.

Comments: See 1419 for more analysis. Putnam determined a possible rate of spread of 18 mph at the deployment site based on time to run distances. Andrews calculated a predicted max spread rate of 5.2 mph with crown model at only 40 mph maximum sustained windspead. Her report also recognizes that the fire flashed across canyon at a greater rate than this. A 60 mph wind would put the predicted spread rate above 9 mph which is the top of the chart. TV 12 video shows 11+ mph spread rate between deployment site fire location at 1423 and road into the subdivision at 1425. Farnsworth watched the smoke approaching the subdivision "at more than 10 mph". Run time downhill with gear is 9 min per mile per Putnam, or 6.7 mph which was not fast enough to stay ahead of the flame front even for some of those who escaped. A 5 minute mile is 12 mph. A 6 minute mile is 10 mph. A 7 minute mile is 8.57 mph. An 8 minute mile is 7.5 mph. A 9 minute mile is 6.7 mph. Ashby reported evacuation of Navajo Two at 1425, with the warning at 1419 or 1420. Five minutes to run about 4000 feet is 800 feet per minute, 9.1 mph, a 6-7 min. mile pace. Six minutes to run about 4000 feet is 7.5 mph, an 8 minute mile pace. Performance was consistent with "Fitness and Work Capacity". A theoretical 45 scorer would run 1 1/2 miles at 5000 feet elevation in 12.25 minutes, 647 feet/min., 7.3 mph, an 8.2 min. mile pace. Even Bachman, with a score of 37, would only be 33 seconds behind the 45 scorer at the Control Road. Springfield, with a score of 67, would be 2.24 min. ahead of the norm at the Control Road at 10.9 mph, better than a 6 minute mile pace.

6/26/90 1418

When LaTour was a little over 100 yards above Perryville checking for spots the wind became strong as it had not done before, and he ran back down to his crew. LaTour Depo, page(s) 98, 101, 140, Document No. .

Comments:

6/26/90 1418

All the evidence is consistent with the following sequence. At 1419 Notah shouted his warning. LaTour was already nearly back to his crew bacause he saw people running as he arrived. He had

therefore probably noticed the changes and began running down to the crew between 1418 and 1419. The crewmembers ran out at about 7 mph and back up hill at about 5.4 mph, consistent with Putnam's experience and Sharkey's "Fitness and Work Capacity". The rate of fire spread was between 11.1 and 12.7 mph South from Fuller Creek. There is evidence of horizontal roll vortex in this direction. Rate of spread Southwest toward Brody Creek and the Control Road was about 11.1 mph. Rate of spread Southeast was about 9.2 mph to where Hoke was cut off and about 7.7 to 9.2 to the road into the subdivision. Rate of spread to the intersection of Walkmore and the Control Road was about 8.3 mph. This appears to have given the crews some extra time to get onto the trucks and leave as the fire crossed the Control Road at Fuller and the subdivision road above the Control Road. There is evidence of horizontal roll vortex running to the East of Walkmore and the Control Road. Rate of spread decreased toward the Northeast (allowing the cutoff crewmembers to return, deploy and for Hatch to be rescued). Spread rate to the deployment site was about 4.34 mph. Spread rate Northeast of the deployment site was timed by Gleason at less than 1 mph. That area did have faster spread rates after the deployment. Spread rates are conservative because additional topographic distance has not been included. Evidence of Horizontal Roll Vortex indicates a run of that type to the South and a run of that type to the East. It is likely, as suggested by witnesses, that spread rates varied widely even within small areas, so these are averages from point to point. There were also multiple runs from different directions, especially after the first few minutes. Hoke was cutoff about 1030 feet below the work site, seconds behind Flippen. The eleven who were cutoff would have been 15 to 30 seconds behind the lowest Navajo simply based on the crewmembers being spread out over 100 yards. , page(s) , Document No. .

Comments:

6/26/90 1418

As Piechura left fire camp for the subdivision he saw a thundercell coming over the fire from the North. The fire was being stoked by wind, creating more black smoke. The main convection column from the fire was leaning at the top toward the East Southeast. As he drove toward the subdivision a lot of black smoke was coming off the fire. He stopped at each engine to drop off supplies, but only for a moment as he was in a hurry. He saw no spot fire along the way back (1330-1410). He went on to the Heber engine just West of the road into Bonita Creek. After dropping at Heber he went on toward Diamond Star East of the subdivision road. There were some rain drops at the Control Road and Bonita Creek road. Diamond Star was gone so he called Scopa who said he had them. Piechura started returning West on the Control Road (about 1418). As he went West again on the Control Road he saw long flames West of Walkmore. my notes, page(s) 3-4, Document No. .

Comments: It only takes about 3 minutes to drive from DP106 to the

Bonita intersection. Johnston's crew confirms there was no spot below the Control Road when Piechura dropped supplies at roughly 1400.

6/26/90 1418

Davenport and Love were the last two to get water. They then carried some water cans down toward the Navajo Crew and tied in with the work. Davenport Depo, page(s) , Document No. .

Comments:

6/26/90 1419

Terra and Hill had come back up the dozer line. All air traffic stopped and it was sprinkling. Conditions became very dark and they recognized it was not a good situation. They were at about the last Navajo Crewmember when they heard a crewmember shout "get out." The crew started running down and out. Terra continued up the trail to their crew. They heard wind like a locomotive and saw a wall of flame on the side ridge. They heard no radio communications. Three of the Perryville crew ran down past them at top speed without saying anything. Three more ran past and Terra took a chain saw from one of them and eventually carried it out. The fire crowned and then dropped in front of them with intense heat, a 100 foot plus orange flame on all sides. Hill had started back, there didn't appear to be time to deploy shelters so they ran back. Terra met N. Enriquez who was walking. The wall of fire on the East was advancing faster than the front on the West. They caught up with Flippen and reached the Control Road. Terra MOI, page(s) , Document No. 26.

Comments: Terra received 2nd degree burns on the back of his neck as he ran out, along with upper airway thermal damage and smoke inhalation. He described in the medical record a 100 foot wall of fire, radiant heat, smoke, debri and superheated air. One of the crewmembers' shovels caught on fire as he ran under the wall of flame, and they had to pitch the burning shovel out of the back of the truck as they escaped.

6/26/90 1419

A scenario consistent with all the evidence to date is at 1419 Notah shouted his warning while LaTour was running down to his crew. LaTour could see the lower crewmembers were running out when LaTour arrived. LaTour said "let's go" and the upper crewmembers grabbed water and tools and walked fast for a few seconds and began running. They ran until cutoff, covering about a thousand feet at roughly 6-7 mph. The fire approached diagonally (from the NW to the SE) to the dozer line at 9+ mph to reach the same cutoff point. This puts the crew close to where Hoke deployed. The main deployment site was reached at about 1422.75 with the flame front having already cutoff Hoke below and above him. LaTour reached Scopa, counted to eleven, Scopa then reached Cooke who recorded the

deployment report at 1423. Those who escaped reached the Control Road at 1423 to 1425, covering 3500-4000 feet in 5-6 minutes at 6 to 9 mph, a pace of a 9 to 7 minute mile. This is consistent with Putnam's experience, downhill running with gear at 6.7 mph, and with "Fitness and Work Capacity", a 45 scorer running 1 1/2 miles at 7.3 mph, unfatigued on a track without gear. Springfield, who deployed second from the top, scored 67 and could be expected to run 1 1/2 miles rested on a track at 10.9 mph. Bachman, who scored 37 and could be expected to run 1 1/2 miles at 6.4 mph, also deployed with the top group. Assuming a 4000 foot downhill run on the dozer line, at that speed she would only have been 33 seconds behind a 45 scorer at the road, less at only 1000 feet when cut off. Springfield would have been over 2 minutes ahead of a 45 scorer at the road. They were both cutoff together with the rest of the crew. Fire spread rate could not have been much slower than 9 mph and was probably faster in some locations. "Fitness and Work Capacity", page(s) , Document No. 121.

Comments: The fire was only 250 to 300 yards from them but Notah saw the flame front still inside the fire atop the ridge.

6/26/90 1419

Edison Notah could see the fire backing down the ridge to the west of them along the saddle, and could see it torching as it came up the steep nose of the same ridge further Northwest of them. Flame lenghts along the ridge were low except for the torching in steep terrain up on the nose to the North. The fire was a few hundred yards across the canyon from them. He stepped back from the work and walked around to get a better view of the fire to the North and to the West. As he was standing above the dozer line looking at the fire to the West along the saddle of the ridge he saw a rolling crown fire come up the back of the ridge and roll over and down the ridge where before the ground fire had been backing down. He then began shouting to everyone to run. Interview Notes with Notah, page(s) 1, Document No. .

Comments: Notah showed us this event on the 3/12/92 site visit and the State's investigator videotaped a reenactment.

6/26/90 1419

Scopa had good communications all day with Ashby on 154.280 and in person. He talked to Ashby and Whitney about the transition. After the transition Ashby called from the intersection of Walkmore and the Control Road reporting he had water and food which Scopa was trying to get for the Glendale crew. Scopa drove down and picked it up. While with Ashby at Walkmore the other STL, Piechura, called to report that fire had jumped the Control Road to the West. At about 1419 Ashby left to the West and Scopa left for the corner house to deliver the water and sandwiches to Glendale. Scopa passed the Central Yavapai water tender which was filling up where the road crossed the creek in the center of the subdivision. Within one minute of arriving at the corner house

LaTour called to report the deployment. The drive back from Walkmore only took about five minutes (timed at 4 minutes). Scopa Interview notes, page(s) , Document No. .

Comments:

6/26/90 1419

The Navajo Scouts 2 arrived at the Perryville Crew on the line and had lunch. They watched for spot fires while doing so. The fire activity was moderate. They could see the burnout making runs into the head of the main fire. After lunch the Alpine Crew members had them swamp for the Perryville Crew. Dennison suggested to LaTour that he had seen an ATV which could be used to bring water to the Perryville Crew, and when LaTour radioed he received a response. LaTour was operating on a different frequency from Navajo 2 so LaTour reprogrammed the Navajo 2 radio to match his frequency. This did establish communications for the Navajo 2 Crew and the water was brought up. While the two crews were working together Dennison and others heard a loud explosion, looked across the ridge and saw a fire ball. One of the Navajo Crewmembers without hesitation shouted "there's the fire escape" and pointed to it, the cat line, and both crews ran down the line to out-race the fire. The fire was increasing rapidly and running parallel on the slope adjacent to them as they ran, crowning the tops of the trees. Dennison and his Crew Boss brought up the rear of the crew. Some of the Perryville Crewmembers passed them on the way down. They reached the road and the fire swept over them to another ridge across the road. They got into some engines and left until they saw their bus, then loaded up the bus and left with all thier crewmembers. Report of Incident, page(s) , Document No. 95.

Comments: First report lost so this is a re-do, contains other details and list of crewmembers.

6/26/90 1419

LaTour was a little over 100 yards from the crew when he decided to run back down to them. When he arrived, there was a group of people still there. He said "let's go". He could see people moving down the canyon. There were high winds and burning debris was falling and he could no longer see the fire itself. They started walking fast for a few seconds and then ran. They could hear the fire but not see it because there was a great deal of smoke and the fire was behind them as they ran. LaTour Depo, page(s) 99-105, 108-111, Document No. .

Comments:

6/26/90 1419

It got calm at Tiffany's location after Piechura reported fire over the Control Road at about 1419. This fire was the spot fire according to Ashby. According to Sorrell, Notah noticed the wind

shift at the same time he saw the flame front, about 1419, while not smoked in. It was calm when Alpine saw the fire flare. Prescott noticed the calm at about 1422 200 yards W of the burnout, just above Alpine. Gleason noticed it about the time of the deployment report, 1423 just above Prescott. One can infer the calm would have been noticeable by LaTour at the N end of Perryville about 1418-1419. If it smoked in then, there was little time lapse before he joined crew and headed down. , page(s) , Document No. .

Comments:

6/26/90 1419

In the absence of a downburst, thunderstorm winds can be expected at 10 to 30 mph at 20 feet above ground level. Berkovitz says they can go 20 to 40 in Arizona. Andrews calculated predicted rate of spread of crown fire under 40 mph maximum sustained wind at 2.2 to 3.7 (75% range) and a maximum of 5.2 mph. Perryville was not caught by an unknown fire hook but by a flame front coming toward them from the main fire. Even at the max rate of spread for thunderstorm winds they could have successfully outrun the fire and escaped. Spread rate for 60 mph winds goes off the chart which is 9 mph. Times and distances put the spread rate at 9-11+ mph. It all happened in the less than the 5 minutes Pensyl was gone in his helicopter. Farnsworth observed smoke approach subdivision at more than 10 mph. Control Road drivers observed flame front following them at a high rate of speed. , page(s) , Document No. .

Comments:

6/26/90 1419

As Ashby left the subdivision to return to camp he stopped and talked to Tiffany at the pumper truck. Scopa came to that location to pick up water and food for Glendale. When Piechura called about fire across the Control Road Ashby went West (about 1419) and found fire across the road. Scopa returned to the corner house. The fire was on both sides of the Control Road but the main fire was still to the North (1421). He called VanTilborg to report the spot. He turned around and as he was heading East toward the subdivision he heard Scopa report the deployment (1423). Ashby tried to call Perryville but was not successful. He went back to Walkmore where the Navajo and Perryville crews were running out. Ashby interview notes, page(s) , Document No. .

Comments:

6/26/90 1419

The urban engines had been sent to the subdivision for structure protection. Tiffany arrived at the Control Road and Walk Moore Canyon to set water for the burnout at 0400. He got 600 feet

of line out to just below the powerline. All morning he could see the white, black and red clouds of smoke from the burnout Northeast of the subdivision. Tiffany saw what he thought was the burnout coming, it looked nice, winds were NE at about 5 mph. The head was moving SW. He watched it for 30 to 60 minutes still thinking it was the burnout. After Piechura passed him going West just before the blowup, he heard a report of fire over the Control Road. Winds became dead calm at the Control Road. He heard a noise like a locomotive or jet engine, then the fire came over the ridge a few hundred yards NW. The ridge line blew up, he cut his hoses to leave, crews ran out and they picked people up. There was a 50 to 60 mph blast of wind for 2 1/2 to 3 minutes. MOI, page(s) 2, Document No. 28.

Comments: PV was leaving SW corner of fire and stopped at Whispering Pines to view the fire behavior after hearing of the deployment. Not involved at all in blowup. They had been working the SW corner anchor with crews to East of them toward Bonita. Tiffany interview 3/13/92 clarifies only one spot reported just before blowup.

6/26/90 1419

Helicopter C-FARC piloted by Les Hanberg returned to the helibase from water drops on Division A at 1419 according to the Helicopter Manifest recorded by Henderson. He had been drawing his water from a nearby fishpond. Hanberg did not notice any clouds or unusual weather during this flight. It was windier on top of the Rim and calmer below it. Helicopter Manifest, page(s) 1, Document No. 116.

Comments:

6/26/90 1419

Guy Jirrels, Chandler Fire Department, ate lunch with Perryville and hosed them off to cool them down. When the fire blew he was above the Perryville Crew and Alpine. He could not see Perryville. A hot blast of air came up into his face and then shifted and he could feel it on the back of his neck. They then left up the line. Jirrels MOI and interview, page(s) 1, Document No. 119.

Comments:

6/26/90 1419

LaTour kept his 14 channel Johnson radio on 154.280 all day as Ashby had instructed him. He had no trouble prior to the escape attempt. He talked to Ashby and to Scopa during the day. He was always able to reach who he was calling within a couple of minutes. He tried to call Ashby twice as they were trying to escape, "Ashby, this is Latour, Perryville" but got no response. He tried once more to reach Ashby as they deployed, but got no response. Before

he got into his shelter he reported the deployment to Scopa who acknowledged. After he was deployed in his shelter he was unable to reach anyone, and was still using only 154.280. He could hear radio talk while in his shelter. While walking out to the Control Road he tried other channels. The radio worked again when they reached the Control Road on 154.280. Terra had a King programmable and the crew had squad radios, for a total of five radios. LaTour depo, page(s) 64, 67, 74, 76, 116-117, 121-125, 128, 191, 193-194, 204, Document No. .

Comments:

6/26/90 1419

When Piechura reported fire across the Control Road Ashby left Walkmore West to check it and Scopa left Walkmore East to return to the corner house. Interview notes with Scopa, page(s) , Document No. .

Comments: It takes 4 minutes to drive from Walkmore and the Control Road to the corner house and 3 minutes to drive to DP 106.

6/26/90 1419

A thunderstorm gust front moved over the entrapment site at 1410 to 1420 on June 26, 1990. The sky darkened and a definite calm occurred a few minutes before the blowup. A strong blast of wind preceded the fire front. AIR, page(s) 7 to 8, Document No. 2.

Comments: Gust front was the downburst winds per Goens. Velocity drops off from center by square root of distance per Latham. This was while Whitney was getting his truck.

6/26/90 1419

On June 26, 1990 at 1415 to 1420 a Navajo crew member yelled "get out", and members of the Perryville crew heard him. Accident Investigation Report, page(s) 11, Document No. 2.

Comments:

6/26/90 1419

Just before the entrapment LaTour went up the line. The area started to smoke in. He did not reach the Alpine crew. He ran down to join the crewmembers. Then LaTour walked briskly down the line so as not to cause panic and not to pass anyone. Smoke obscured their view of the fire as they walked. They picked up water cans as they went down. They saw thick black smoke crossing below cutting them off and went back up. He also says everyone was deployed in their shelter in plenty of time before the fire hit them. second hand info, page(s) , Document No. .

Comments:

6/26/90 1420

Sgt. Birgam drove around the curve into Fuller Canyon going West on the Control Road and saw a wall of flames on the West side of Fuller Canyon on both sides of the Control Road. The fire was spreading toward the Northeast. It was running through the tops of the trees and then the ground fuels would ignite. The wind shifted and was coming from the North. He and a Sheriff's van following him turned around to go back East because they could not go West. A Forest Service pickup, S-10, stopped and told him he could not get through. Birgam stopped at Walkmore where two Navajo and one other crewmember jumped into his truck (about 1424). The Wind had shifted again and was coming from the West along the North side of the Control Road but from the Southwest along the South side of the Control Road. Birgam continued Easterly on the Control Road. Birgam MOI and reinterview, page(s) 1-2, Document No. 109.

Comments: Piechura called this over radio at about 1418 to 1421 and Ashby went to check it in his truck. (Between 1420 to 1421 on the TV 12 video "...Control Road" is audible). Piechura was first report of fire over road as opposed to spot. See also Arvin White's interview notes.

6/26/90 1420

By 1420 the crews were located as shown on Mattingly's Map #2. He had heard Whitney on the radio earlier that day and was aware that he took over from Ashby as their supervisor, but had not spoken with Whitney. The sequence was Navajo 2, Perryville, Alpine, Prescott, Flathead and the Zigzag or Redmond Crew was along the handline around the residence and east along the road to the Plumas which was where the dozer line started back up to the northeast from the subdivision road. , page(s) , Document No. 94.

Comments: Throughout his narrative Mattingly stated that Ashby and Whitney were the Division E supervisors rather than the Group F supervisors.

6/26/90 1420

The Perryville crew was mixed in with the Navajo Crew. When the Navajo crewmember yelled "get out" all of the crew started down the dozer line. Perryville crewmember Bill Davenport got cut off by flame coming across the line. He turned around and started running up the line. Love and LaTour were the only ones he saw ahead as they went back up. LaTour directed them to deploy shelters as they were running. Davenport took off his pack and took out his shelter. He deployed next to Love, down the hill from the water cans, and communicated with others in their shelters. LaTour was directly behind him. After the front hit, he heard one scream "I can't take it anymore". He then screamed from fear. He was in his shelter about a half hour. A branch dropped on his shelter and burned his legs. Burns on his arms was from touching the side of the shelter. After the deployment he lost his glasses

and Harley Davidson head band. He got out of his shelter, followed by Love and Latour, then went down the canyon. MOI, page(s) 1-2, Document No. 5.

Comments: Water cans were originally above deployment site but were carried down during escape.

6/26/90 1420

Davenport had just tied in with the crew to resume work when he heard a Navajo crewmember yell and point. He could not understand what was shouted but could see a rolling crown fire where the crewmember was pointing. The fire was on the ridge across from them moving from the Northwest to the Souteast. He looked up the dozer line to be sure noone was above them and then ran down the line. He recalls seeing LaTour below him. Hatch was the furthest person whom he could recognize ahead of him, but could see someone ahead of Hatch. As they were running Davenport saw a wall of flame rotating clockwise cross the dozer line ahead of Hatch. The person ahead of Hatch disappeared from his view and Hatch turned and told them to turn around which they were already doing. Davenport unbuckled his pack and pulled his shelter out without awaiting any order. When LaTour ordered them to deploy he deployed in 12 seconds. Davenport Depo, page(s) , Document No. .

Comments: Description of the flame front is consistent with horizontal roll vortex and extreme turbulence.

6/26/90 1420

Gregory Hoke had just finished a break as swamper for Chacon. They were at the water cans. Hoke heard someone say "get the fuck out" and he saw flames. He began running with Contreras but saw fire cross in front of him. He turned and saw fire cross behind him between him and Contreras. He decided to deploy his shelter. The wind was very strong and almost blew him and his shelter over. He stayed in his shelter about 20 minutes. Ellis came by and said he was hurt bad and his shelter didn't work. Hoke told him to get some water from his (Hoke's) pack. Ellis said it was burned up. Hoke believes there were two blow overs, one from each direction. MOI, page(s) 1, Document No. 14 and 15.

Comments: Hoke questions why it took so long for help to arrive. Says it was calm before blowup. Says Love's radio could receive but not send, but got a response when reached Control Road. Gives post deployment details. Has two MOIs, Doc 14 and 15.

6/26/90 1420

, page(s) , Document No. .

Comments: At around 1420 Cooke and Velasco were going East from Walkmore. Whitney was getting his truck with Gil and VanTilborg. Scopa was returning to the corner house. The crew drivers were

still approaching their rigs which were at the Control Road. Ashby was driving West on the Control Road to check Piechura's report of fire across the Control Road. Birgam was also near the fire across the Control Road. Pensyl was returning with a bucket of water. Hanberg had just landed at the helibase. Battersby was dropping his cargo and returning from the top of the Rim, landing at 1430. Both Airattack, the lead and the tankers were up. Leech and Dundas were probably at camp for a few minutes. Damerow was at the helibase. The Perryville and Navajo crews in Walkmore had noticed by now changes in wind, smoke or fire behavior and had begun moving out. It was calm at Tiffany's pumper. Navajo and Perryville were running out. Alpine then began pulling out from seeing the fire flare (about 1422), with Mattingly going down and radioing for LaTour. Prescott also began pulling out due to subtle changes in wind and smoke seen by Sciacca (about 1422) beyond the end of the burnout. About 1423 Linse and Gleason began noticing the head of the canyon smoking in and heard radio reports of the blowup.

6/26/90 1420

VanTilborg picked up Whitney and Gil at the subdivision. Interview notes, page(s) , Document No. .

Comments:

6/26/90 1420

LaTour noticed that the gap between his crew and Alpine had smoked in. He was hit by 40 to 50 mph wind with downdrafts and squirly behavior. It got dark like a sunset. He ran down to the crew and heard shouting about evacuation. Embers the size of pinecones were falling. When he got down to the crew he saw people running downhill. He carried a water can down with him. He heard yelling and saw people coming back up hill and a solid wall of fire behind them. It was roaring and solid black. He turned and went back telling people to get shelters out but don't deploy until uphill. There were 2 people uphill and about half way uphill they had to deploy. The others deployed in the drainage. The fire hit on the downhill left side of his shelter, tore it and lifted it but he held it down. Another fire came from the right and then a third fire came. He tried calling on all channels but got no answer. He did hear radio traffic that help was on its way. He was in his shelter about an hour. At the Control Road a FS truck took them to a clearing. The fire flared up and they were given shelters and moved to base camp. LaTour MOI, page(s) , Document No. 17.

Comments:

6/26/90 1420

All of the Navajo and Perryville crewmembers began running down the escape route down Walk Moore Canyon. Part way down, 11 Perryville crewmembers were cut off when the fire crossed the dozer line. They turned around and ran up the line with orders to deploy

their shelters. AIR, page(s) 11 to 12, Document No. 2.

Comments:

6/26/90 1420

At about 1420 Edison Notah noticed the windshift changes to the east and the fire start crowning. He yelled to everyone to start running back down the dozer line. The smoke was so thick they could barely see 20 to 30 feet ahead. Some ditched their tools as they ran. MOI, page(s) 1-2, Document No. 24.

Comments: This is from a chronology provided by Sorrell. Sorrell says there was a helicopter overhead which did not warn them and complains of communications lacking.

6/26/90 1420

Glenn Harder and Tim Smith of the Perryville Crew were helping the Navajo Crew clearing brush. All the Crew was within 20 yards of the gerry cans when the fire blew up. Smith and an Indian looked up and saw the fire and heard it. The Indian yelled "get out". The crew understood that the escape route was down the dozer trail. They didn't know that personnel were trapped behind them. They had seen Bachman fall and Denny helping pick her up. They met Terra heading back up the line. They tried to pull their shelters but could not open the shelter pack because of the pack full of fuses and inability to feel with gloves on. A Navajo came back up and encouraged them to leave. They heard explosions and were running under a ceiling of fire with fire whirls mixed in. They had been on several prior fires. MOI, page(s) 1-2, Document No. 13.

Comments: Note LaTour and crew carried the gerry cans down during the escape and were working northeast of where the cans were found.

6/26/90 1420

The Perryville Crew gathered around the water supply 3,300 feet from the Control Road to fill their canteens. Just minutes after returning to work the Navajo Crew Member yelled "get out" at about 1415 to 1420. AIR, page(s) 11, Document No. 2.

Comments: AIR distance wrong because water cans were carried out. Work site was about 4000 feet from the Control Road, about 300 feet above the highest deployment site. Walter's photo log 16-17 misidentifies work site. Work site was above his last photo (25) which is of Hatch's shelter.

6/26/90 1420

Both airattack planes were in the air during the downburst, as they were transitioning at the time, which includes briefing the

incoming plane. None of these four people observed anything unusual about the weather or fire before the downburst. There was cumulous along the Rim to the NNE of the fire, which was reported by Mark Glos before he heard of the deployment. The area where Perryville was located burned over very quickly, within the time it took to fly a circle around the fire. Both aircraft flew the scene after the entrapment at the request of ground personnel to determine whether slurry could be dropped. The lead plane flew it also and confirmed it was too dangerous. They helped direct in the rescue helicopter and other resources. Smoke obscured the area of the subdivision after the deployment. MOIs and interview notes, page(s) , Document No. .

Comments:

6/26/90 1420

VanTilborg had left the subdivision to return to fire camp. As Vantilborg was driving west on the Control Road Gil called him and asked him to return to the subdivision to give him a ride to camp. VanTilborg was at the top of the ridge West of Walkmore. He turned around there and noticed a spot fire south of the Control Road on the ridge top (about 1410). It was about a tenth of an acre and not running. It presented a suppression problem but not a threat to safety. The area was smokey but he did not see a blowup in progress. He called Prescott Hotshots to report the spot was a threat to their crew vehicles and they should move them. He then received a call from Dundas reporting the spot fire and VanTilborg told him he was already there and had seen it. He also told Dundas he was returning to pick up Gil. He tried to contact Whitney but was not successful. At the subdivision he found Whitney on foot and Whitney asked for a ride to his truck. They then saw Gil and picked him up and dropped Whitney off at his truck. As VanTilborg and Gil tried to leave fire was jumping completely over Walkmore and into the subdivision so they turned around. (This would have been about 1425 to 1430.) VanTilborg interview notes, page(s) 1-3, Document No. .

Comments:

6/26/90 1420

Alpine HS Foreman Mattingly arrived on the line at about 0930. Ashby was his supervisor. A few minutes after leaving LaTour he noticed the wind shift and the fire begin to run and he pulled his crew out. He went down the line to check Perryville and found they had already gone down the dozer line. He did not get clear down to the jerry cans but got to where he could have seen the crew if they had not left yet. He never received by radio or verbal any report to evacuate the crews. Mattingly interview notes, page(s) , Document No. .

Comments: Had programmed LaTour to the Tac freq. and it was working.

6/26/90 1420

At about 1420 to 1421 on the TV 12 video the words "...Control Road" are audible. TV 12 Video, page(s) , Document No. .

Comments:

6/26/90 1421

Piechura told Johnston to go East. Embers were falling at Johnston's location. As Piechura continued West there were spot fires all along the way on both sides of the road. Interview notes, page(s) 6, Document No. .

Comments:

6/26/90 1421

At approximately 1420 to 1430 Mattingly had walked past the last (Easternmost) Perryville crewmember and met the first Alpine crewmember. The wind had almost completely died. The Alpine crew was still doing preparation work. He moved past an Alpine saw team (James Higgins and Mark Spruill) and suddenly felt a strong gust of wind from the North or Northwest. It was a sustained wind probably from a thunderhead downdraft. He saw the main fire, which had been about mid slope on the ridge due North of the fireline and subdivision instantly race for the fireline with great intensity. He yelled for everyone to come up to the line, specifically the saw team working about 40 to 50 feet inside the line, and pushed the crew up the fireline to the East and toward the subdivision. After seeing that everyone was moving in that direction he turned around and walked west back down the line to where he had last seen the Perryville Crew working. As he moved briskly to that location he tried to contact Perryville 7 to 10 times to warn them to move if they were not currently doing so. He got no response on the radio, arrived at their location and they were gone. At this point the fire was bumping the line very hard with full runs through the canopy and Mattingly saw three spot fires taking off above to the South of the line. Mattingly quickly determined and hoped that Perryville had taken off West down the line and returned up the line to the Westernmost Alpine crewmembers. The fire was making large, crowning runs behind them and they had to run up the line to escape the most intense ones. As they moved up the line they pushed crews, which Mattingly believes was the Flathead Crew, toward the subdivision. , page(s) , Document No. 94.

Comments: The canopy and smoke prevented them from seeing what was actually above them. He did not actually see any Prescott crew as they evacuated, so they may have preceded Alpine.

6/26/90 1422

Summary, page(s) , Document No. .

Comments: Piechura and Heger were driving West from Fuller and the Control Road and had sent Johnston East. Prescott and Alpine were pulling out. Mattingly was trying to see and contact Perryville. Scopa was arriving at the corner house. Whitney was getting his truck with VanTilborg and Gil. Ashby was checking the spot. Cooke and Velasco were driving East on the Control Road or NE on 144 Road. The Perryville crewmembers were being cut off and were moving back up, deploying at 1423. Fire approached the Control Road and Brody Creek and then reached Walkmore right behind the Navajo at 1424 to 1425. Ashby and Johnston were there and Ashby called to report their evacuation at 1425. Fire swept over them to the ridge South of the road. At 1425 fire also crossed the road into the subdivision. The main fire was crossing over the Control Road all along a mile length to the South. Navajo 1 on the West Side was going into the black to keep from being overrun. The Northeast side was running to the Southeast toward Ellison Creek East of Bonita Creek subdivision. The fire avoided the several hundred people near the corner house for a considerable additional period of time including discovery and rescue of Hatch.

6/26/90 1422

After sending Johnston East Piechura reached Heger and sent him West along with himself. The fire was over the Control Road as they drove West. Later, at the fire edge at Drop Point 106 they both heard LaTour report that Perryville was deploying, "This is the Perryville Crew, we are deploying shelters". He did not hear LaTour count off the numbers. They waited there for the fire to calm down. At that point spread was more to the East than to the West. Slurry was being dropped in their area. He used the BIFC to report the deployment to fire camp communications. Piechura interview notes, page(s) 7, Document No. .

Comments:

6/26/90 1422

, page(s) , Document No. .

Comments: When Heger crossed Brody Creek about a mile West of Walkmore the fire was 100 yards from the Control Road.

6/26/90 1422

, page(s) , Document No. .

Comments: About 1422 Tony Sciacca of Prescott saw the smoke and fire behavior changing at the Northwest corner of the subdivision but not running. It made him uncomfortable, he suggested to Nando they should pull the crew back, Nando agreed so they began walking out in an orderly manner. They were adjoining the Alpine Crew and told them they were pulling out. The upper Alpine crewmembers not yet pulling out.

6/26/90 1422

Squad 2 (Hatch S.L., Love A.S.L., Chacon, Harder, Guy, Hoke, Enriquez and Springfield) was working above Squad 1 (Denny, S.L., Hill, A.S.L., Ellis, Davenport, Contreras, Carrillo, Flippen, Pender and Smith). However, some of the Squad members overlapped. The upper group consisted of Love (61), Hatch (50), Bachman (37), Denny (37), Springfield (67), Ellis (39) and Contreras (43). Below them were Chacon (47) and Hoke (38). Guy (48) was below them and Enriquez was below Guy. Carrillo (45) and Flippen (43) were below Enriquez. Davenport (43), then Smith (40), Harder (47) and Pender (44) were lowest. Love (61) had been helping fill the water bottles. Hoke (38) was taking a break after swamping. Chacon (47) now had the saw. Hoke (38) and Contreras (43) were together down the line from the water cans but just above the Navajo crew. Hoke (38) was ruturning to the line and putting his water bottle back with one glove off. When Hoke (38) heard the order to run he looked back up toward the area of the water cans where Chacon (47) and and his bosses (Denny, LaTour, Love) were, to see whether he should run or not. Within not more than 30-40 seconds Hoke (38) and Contreras (43) began running. Contreras (43) was about 10 feet behind Hoke (38). Guy (48) had been throwing fuel over a fence near the dozerline below Hoke (38) and Contreras (43). Enriquez was working among 5-6 Navajos near Guy (48), Carrillo (45) who was running a saw, and Flippen (43) who was swamping for Carrillo (45). Carrillo (45) thought he was the furthest up the line of Squad 1, but Denny (37), Ellis (39) and Contreras (43) appear to have been above him. Carrillo (45) and Flippen (43) were working together next to the upper Navajos. Guy (48) heard the Navajo crew yelling, looked up and saw the fire coming toward him. Guy (48) looked up the dozerline and heard Hatch (50), Doug (Dave?) or somebody else say "move out". Guy (48) began running with Carrillo (45). Guy (48) and another passed Enriquez. Guy (48) told Enriquez to "come on" as he was starting to slack off a little. They were throwing fuses from their packs as they ran. Guy (48) then stopped to help Harder (47) remove fuses from his pack. Smith (43) caught up with them there and passed Guy (48) and Harder (47). Smith (40) and Harder (47) tried to pull their shelters but never did and were impeded from opening the shelter packs by a pack full of fuses and by gloves. A Navajo came back up and encouraged Smith (40) and Harder (47) to leave. Smith's pack was found at the deployment site, perhaps 300 feet below where they had been working. Enriquez, Guy (48), Harder (47), Pender (44) and Smith (43) all passed Flippen (43). Carrillo (45) was running with his saw and had to stop a couple of times to pull up his chaps, and Flippen (43) took the saw from him so he could hold up his chaps to run faster. Flippen (43) fell and a Navajo helped him back up. Flippen (43) sustaineed a low back muscle strain. Flippen (43) tried several times to throw down his saw but was unable to let go of it. Carrillo (45) was alternating sprinting and then walking. When Carrillo (45) stopped, a Navajo told him "don't stop, the flame is on you". The fire was so close he then had to just keep running. Sorrell, the Navajo Crewboss, brought up the rear of his crew and assisted several of them to continue. They stopped about

4 times as they went down, and considered deploying along the way. Smoke reduced visibility to 20 to 30 feet. Some Perryville passed them and others were behind them with saws. Sorrell told them to drop the saws but they didn't. Carrillo (45) saw a male Navajo helping a female Navajo run. Guy (48) also saw this, the male with his arm around the female walking and encouraging her to keep going. Smith (43) was also there encouraging her to run. LaTour and Denny (37) had grabbed water cans to carry them out. Hoke (38) and Contreras (43) ran down together. Hoke (38) and Contreras (43) saw LaTour and Davenport (43) dropping back as they ran. Smith (40), Harder (47), Carrillo (45), and Pender (44) were among the Navajo near Notah and ran. Smith (40) and Harder (47) saw Bachman (37) fall down and Denny (37) help her up. Terra and Hill (40) were on their way back up. Terra still proceeded up to join the crew even though he had heard the shouting, seen a wall of flame and heard the locomotive sound and had two groups of three Perryville run down past him. Hill (40) noticed black smoke and darkness and moments later saw a wall of flame and ran down, sustaining smoke inhalation. Smith, Harder, Carrillo, Enriquez, Flippen and Pender ran past Terra who was coming up. Terra was standing along the dozer line telling Carrillo and others to continue running down the line. Carrillo (45) looked back at that point and saw behind Flippen (43) what looked like a volcano with a vacuum which then closed in. Terra asked Flippen (43) if there was anybody behind him, and Flippen (43) looked back and could see only a wall of flame. The weight of Pender's pack prevented him from opening his shelter container. Pender (44) fell on some rocks and contused his posterior ribs. Hoke (38) was cutoff about 1421-1422 while running down with Contreras (43) right behind and above above him. He saw the crewmembers in front of him round a corner with fire crossing right behind them (probably Flippen (43)). Hoke (38) stopped, turned and saw fire cross between he and Contreras (43). It looked to Hoke (38) like Contreras (43) ran right into the fire, but the fire was playing tricks and was real smokey so he was not sure. The fire came over Hoke (38) who discarded his pack, moved about 10 paces away from it because there was fuel in it, and Hoke (38) deployed there. The wind almost blew Hoke (38) over as he lay in his shelter. As Contreras (43) and the others turned back up, LaTour and Love (61) were furthest up and were above Davenport (43). They had been bringing up the rear. They ran back up. When LaTour ordered deployment, a nose count, and was reporting it on the radio Chacon (47) deployed and Denny (37) helped Bachman (37) deploy. LaTour, Love (61), Davenport (43) and Springfield (67) proceeded up another 15 yards and got into their shelters. At the deployment site 3 were above LaTour, Love (61), Springfield (67) and Davenport (43). Hatch (50), Denny (37), Contreras (43), Bachman (37) and Ellis (39) deployed just below LaTour. Chacon (47) was found covering Denny below the drainage but his pack was in the main deployment site, so he may have deployed with the group and later moved down to where he helped Denny after Denny moved and abandoned his shelter. Fire had cut Terra off with the lower group, there was no time to deploy, he ran down and found Enriquez walking, both ran from there, with fire on the East advancing faster than the front on the West. After

Enriquez ran he walked for a time to catch his breath, and the fire caught up with him and barely got in front of him so he had to run again. A strong wind started pushing Enriquez when the fire caught up with him. Guy (48) and Carrillo (45) also noticed strong winds as they ran out. Enriquez was unable to let go of his pulaski. Terra sustained second degree burns on the back of his neck and upper airway thermal damage and smoke inhalation. Smith (43) and Harder (47) ran under a ceiling of fire with fire whirls. At the hose lay the fire was behind Flippen (43). Flippen (43) ran with fire all around him and the smoke and heat impaired his breathing. He had to stop several times to catch his breath. Flippen (43) watched an Elk running out along side him about 35 feet away with fire 5 feet behind the Elk. Flippen (43) saw smoke being sucked down, shifting winds and a dowdraft. Terra and Enriquez caught up with Flippen (43). Flippen (43) had fallen once and had stopped several times. Burning debris fell into Flippen's shirt and he tried to put it out but Terra told him to keep running. Flippen (43) fell a second time and Terra helped him up. Terra had to pull the saw from Flippen's grip and Terra carried it out. Hill (40) had been with Terra but started running out with the Navajos sooner than Terra and also escaped. Carrillo (45) saw red taillights and ran faster. Enriquez, Flippen (43) and Terra were the last ones out and jumped onto the tailgate of a truck which was already full of people. MOIs and interview tapes, page(s) , Document No. .

Comments: Smith also saw the Elk.

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Hanna returned to the Control Road after delivering the water. He took a couple of minutes to load his ATV onto his truck. As he walked over to where Tiffany was sitting eating he heard the fire roar like a jet engine and got ready (in his mind) to take it on. It got dark and seconds later they could see flames rolling high in the treetops as it came over the ridge Northwest of them a few hundred yards away. It was not coming down the canyon. They could feel the wind pulling around them. They dropped everything to evacuate. Hanna's truck wouldn't start at first. Navajo and Perryville crew were running out and into the rigs. Hanna was the last one out (about 1425). They left the area in less than five minutes from seeing the flames. One of the Perryville crew who jumped into his cab told him all the crewmembers did not get out. Hanna interview notes, page(s) , Document No. .

Comments:

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Summary, page(s) , Document No. .

Comments: Fire blocked the lower end and cut the entrapped crew in half. Mattingly would have made his first physical attempt to find them while radioing also, while the fire was bumping the line and spotting across up to the Southeast on his first try.

6/26/90 1422

The Prescott Crew pulled out about 1422-1423. They are seen on the tape from TV 12 at about 1427 coming up the dozer line arriving at the road. Interview notes, page(s) 1, Document No. .

Comments:

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As the entrapped crew got cutoff and turned around to run up the line, Hoke was the lowest. He saw the flame front ahead cutting him off from the rest of the crew, between he and Contreras. He deployed about 300 yards below the main deployment site. There was very little heat damage to his shelter or clothing. His shelter reached 500 degrees and nearby objects on the ground less than 300 degrees. He experienced a normal deployment and was not injured. Analysis of PPE, page(s) 13, Document No. 118.

Comments:

6/26/90 1422

Piechura told Heger to leave the Fuller Creek area and head West on the Control Road. When they reached Brody Creek (less than a half mile from Fuller) the fire was about 100 yards from the Control Road with flame lengths of 100 to 150 feet. Rural Metro Shop 958 Report, page(s) , Document No. 69.

Comments:

6/26/90 1422

Mark Zumwalt, Division Supervisor on top of the Rim, was conducting a burnout along the 300 Road in the center of Section 21. They were staying just ahead of the movement of the main fire. There was a lot of heat in Section 28 and the smoke from Section 21 was being sucked into Section 28. There were tundercells to the North of the Rim not over the fire. Ten to fifteen minutes before Bonita Creek blew, the fire in Section 28 blew up and ran into Sections 33 and 34 down to the Southeast toward Ellison Creek Summer Homes. Zumwalt advised Cooke of his observations (as Cooke was on 144 Road just before deployment report). The fire to the East thereafter collided with the fire to the West at the subdivision. MOI, page(s) 1, Document No. 22.

Comments: Note visible on videos. Cooke acknowledged his report. Recalls the main fire then ran toward Bonita and the fire running toward Ellison collided with the main fire in the vicinity of Bonita Creek subdivision. Cooke recalls he was on 144 Road NE of subdivision and heard this just before he received report of deployment at 1423.