**Summary:** Wednesday, July 29, 2009 Thomas Botell Jr., Katrina Botell and Brittany Botell were hiking with their parents on the Lassen Peak Trail within Lassen Volcanic National Park. The children sat on a stone and concrete retaining wall in the "switchbacks" area of the trail. Approximately four feet of the northern end of the wall gave way, causing traumatic injury to Thomas and Katrina. Katrina was not injured. Katrina suffered head trauma and was evacuated by helicopter to Mercy Medical Center in Redding, from which she was ultimately released. Thomas succumbed to his injuries and was pronounced deceased at the scene. The Shasta County Coroner performed the autopsy. Lassen Rangers conducted the initial investigation, which was assumed by NPS Investigative Services Branch on August 24, 2009.
SUMMARY:

Wednesday, July 29, 2009 Thomas Botell Jr., Katrina Botell and Brittany Botell were hiking with their parents Thomas Botell Sr. and Jennifer Botell on the Lassen Peak Trail within Lassen Volcanic National Park (LAVO). During the hike up Lassen Peak, the children sat on a stone and concrete retaining wall in the "switchbacks" area of the trail about 1.7 miles above the trailhead. Approximately four feet of the northern end of the wall gave way while the children were seated upon it, causing traumatic injury to Thomas Botell Jr. and Katrina Botell. Katrina suffered head trauma and was evacuated by helicopter to Mercy Medical Center in Redding, from which she was ultimately released. Thomas Jr. succumbed to his injuries and was pronounced deceased at the scene at which time CPR was discontinued. The Shasta County (CA) Coroner performed the autopsy. Lassen Rangers conducted the initial investigation, which was assumed by NPS Investigative Services Branch on August 24, 2009.

INCIDENT DOCUMENTATION:

July 29, 2009 – at scene

12:39: Yosemite National Park Communications (VoIP Radio Dispatch for LAVO) received information, via Susanville (CA) Interagency Fire Center (SIFC), that the Chester (CA) Ambulance was responding to a report of traumatic injury on the Lassen Peak Trail within LAVO. Yosemite Dispatch relayed this information, via radio, to NPS Rangers at LAVO, who responded to the scene1. At an unspecified time about 45 minutes after 12:55 PM, Chester Ambulance arrived at scene and radioed an update on conditions to responding EMS providers.

1:30: Yosemite Communications consolidated incident report.

Reporting Official/Title: [Redacted]  Signature: [Redacted]

Approving Official/Title: [Redacted]  Date: 11/11/10

Distribution: Original – Case File  Other: 12/Jan/10

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resuscitation to Thomas Botell Jr., assisted by [name redacted] and [name redacted] then assumed care of both patients provided emergency medical treatment to Thomas ("Tommy") Anthony Botell Jr. and Katrina Botell.

14:18: CPR was discontinued on Tommy Botell, in accordance with established protocol. His body was later removed from the scene by CHP helicopter and flown to Redding, where custody was assumed by the Shasta County Coroner.

14:18 (approximate): A short haul operation to remove Katrina Botell from Lassen Peak to a landing zone at Lake Helen was initiated. Once at Lake Helen, she was transferred to "Air Med 42" for transport to Mercy Medical Center, departing at 15:20.

15:42 all emergency services personnel, family and bystanders cleared the scene. The scene remained behind to conduct further investigation.

FOLLOW-UP INVESTIGATION:

July 29, 2009

Thomas A Botell Sr. was interviewed at the Lassen Peak Trailhead by [name redacted]. Mr. Botell stated that he and his family had been hiking on the Lassen Peak Trail. Thomas (Jr.), Katrina and Brittany Botell, his children sat on the end of a concrete and rock retaining wall. A portion of the wall gave way and fell causing the death of his son Thomas Botell Jr. and serious injury to his daughter Katrina.

Jennifer K. Botell was interviewed at the Lassen Peak Trailhead by [name redacted]. Mrs. Botell stated that she and her family were hiking on the Lassen Peak Trail when her children sat on a section of retaining wall along the trail. A section of wall collapsed, injuring Thomas Botell Jr. and Katrina Botell.

[Name redacted] was interviewed at the Lassen Peak Trailhead by [name redacted]. He also provided a written statement to [name redacted]. He stated that he did not see the wall collapse but responded a short distance to the scene and provided assistance to a nurse who provided CPR to Thomas Botell Jr.

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2 National Park Service - Emergency Medical Services Report: "Tommy Botell"
3 National Park Service - Emergency Medical Services Report: "Katrina Botell"
4 Supplemental Report; Initial Investigation by [name redacted]
5 Supplemental Report: Scene Photographs and Log
6 Supplemental Report: Thomas A. Botell Sr. Interview by [name redacted]
7 Supplemental Report: Jennifer K. Botell Sr. Interview by [name redacted]
8 Supplemental Report: [name redacted] Interview by [name redacted]
9 Voluntary Statement: [name redacted]
[Redacted information]

Case Number: ISB-PW-09-0080

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Case Number: ISB-PW-09-0080

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. She provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He stated he had been skiing (on vestigial snow fields) and was resting when he heard screaming above him. Looking up, he saw a rock wall falling down the slope and heard someone screaming for help. He directed a person, whom he does not identify, to call 911.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] provided a witness statement to [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

[Redacted] spoke with [Redacted] at the Lassen Peak Trailhead. He provided no additional information.

Voluntary Statement
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Case Number: ISB-PW-09-0080

[Redacted] spoke with [Redacted] at the Lassen Peak Trailhead he provided no additional information.

[Redacted] spoke with [Redacted] at the Lassen Peak Trailhead he provided no additional information.

[Redacted] spoke with [Redacted] at the Lassen Peak Trailhead he provided no additional information.

[Redacted] spoke with [Redacted] at the Lassen Peak Trailhead he provided no additional information.

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Case Number: ISB-PW-09-0080

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provided a witness statement to at the Lassen Peak Trailhead. He provided no additional information.

provided a witness statement to at the Lassen Peak Trailhead. He provided no additional information.

stated that she was hiking on the Lassen Peak trail when she came across this incident. She found Tommy Botell unresponsive with a female performing CPR on him. stated that Tommy had no pulse, blue lips and dilated pupils. She also evaluated Katrina Botell and found her to be responsive and being stabilized by her parents. Then assisted with CPR for approximately 1 hour 20 minutes. She reported that upon arrival, Paramedics attempted to intubate Tommy Botell and also found him to be without a pulse.

provided a statement to at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to at the Lassen Peak Trailhead. He provided no additional information.

was contacted by at the Lassen Peak Trailhead. He provided no additional information.

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Case Number: ISB-PW-09-0080

[Redacted text]

was contacted by [redacted] at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to [redacted] at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to [redacted] at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to [redacted] at the Lassen Peak Trailhead. He provided no additional information.

provided a statement to [redacted] at the Lassen Peak Trailhead. He provided no additional information.

Investigation to date has revealed a total of 57 persons who were identified as having been present, in the vicinity of or responded to this incident. 54 of these people are identified and documented either by way of their reports, witness statements or documentation of contact during the canvas at the Lassen Peak Trailhead. No record of interviews or statements taken from the three children directly involved in collapse of the rock retaining wall was provided to this investigation. No interviews of the surviving children will be sought.

July 30, 2009

[Redacted text]

attended the autopsy of Thomas Anthony Botell Jr. [redacted] documented the external condition of the body, prior to initiation of the post mortem examination. Due to problems with the Nikon D-50 camera a second set of photographs were completed using a Canon SD 1200 camera. No further visual record was kept by NPS officers, once the exterior of the body had been examined. [redacted] later obtained a copy of the Shasta County case number C09-0713, including Coroner's Verdict of Death, Coroner's Final Review, Report of Autopsy, Decedent General Information and Coroner Narrative Report.

[Redacted text]

conducted an interview at the Loomis Ranger Station. [redacted] prepared a supplemental report of the interview. [redacted] provided information concerning the original construction of the rock and cement retaining walls and maintenance and rehabilitation efforts and programs over the period of his tenure. [redacted] further provided his opinion concerning the quality and nature of the original construction as well as ongoing maintenance.

53 Voluntary Statement
54 Voluntary Statement
55 Voluntary Statement
56 Voluntary Statement
57 Supplemental Report, Post Mortem Examination T Botell Jr., by 30JUL09 09:30 AM
58 Supplemental Report, Post Mortem Examination T Botell Jr., by 30JUL09 09:51 AM
59 Shasta County Coroner Report C09-0713
60 Supplemental Report, Interview of [redacted] by [redacted]
located and recovered a park computer file folder located on the park's network drive labeled "Peak Trail" containing approximately 2.88 gigabytes of information relating to the trail reconstruction project. This file was copied in its entirety to DVD-R labeled Evidence Item #5.

reviewed online data concerning weather in the vicinity of Lassen Peak on July 29, 2009 in an effort to determine if adverse weather could have been a contributing factor to the collapse of the rock wall.

reviewed a United States Geological Survey website concerning earthquake activity in the Lassen Peak area on July 29, 2009. No pertinent data was found.

August 5, 2009

conducted an interview of for providing information on the history of the Lassen Peak Trail.

August 6, 2009

conducted an interview of providing information and opinion concerning the nature of ongoing trail maintenance, the original construction methods of the trail and the level of effort required to maintain and repair the Lassen Peak Trail.

conducted an interview of with his files containing information concerning the maintenance and restoration of the Lassen Peak Trail. took copies of 11 pages of these documents. reported that he had removed a sign from the Lassen Peak Trail parking area, as it had, in his opinion, presented a false image that the entire trail was open, when it was not. This sign was present at the parking area the day of the Botell incident.

conducted an interview of provided information concerning the history and management of the Peak Trail.

Evidence Item #5: compact disk, contents include copy of NPS LAVO electronic files relating to Peak Trail

Supplemental Report, Collection of NPS LAVO electronic files relating to Peak Trail


Supplemental Report, USGS Seismology Records for July 29, 2009

Supplemental Report, Interview of by

Supplemental Report, Interview of by

Supplemental Report, Interview of by

Supplemental Report, Collection of copies of the documents from

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August 14, 2009

Received a computer portable hard drive, by mail, containing approximately three hours of raw video footage taken of the Lassen Peak trail as part of the compliance process for the "Reach the Peak" project. The hard drive and video footage was received from [Redacted] Yosemite National Park and was turned over to [Redacted] on August 24, 2009. The video was shot by [Redacted] on June 30th, 2009 while hiking the Peak trail with Lassen [Redacted]. The video was made as part of a fund raising effort for the "Reach the Peak" trail project.

August 20, 2009

[Redacted] searched the LAVO website for information pertaining to hiking/trail conditions and visitor safety.

[Redacted], assisted by [Redacted], searched the Lassen Volcanic National Park central files for documents relating to the Lassen Peak trail. [Redacted] made copies of pertinent documents and included them to this investigation.

August 26, 2009

[Redacted] and [Redacted] went to Lassen Peak at the scene of the trail wall collapse. [Redacted] created a record of the Lassen Peak trail from the trailhead to a point just above the incident, including trail signs, trail condition, observations and recollections from the day of the incident and point of rest of wall fragments below the trail as follows:

- Digital video tape record of the trail and the site of the collapse, including all signs along the trail and at the trail head. Video converted to MPEG format November 24, 2009; original tape held as evidence.
- Digital still images of trail conditions, measurements and relevant objects.
- GPS data relating to video locations, trail points and resting point of wall fragments.
- [Redacted] collected a sample of native material, including volcanic ash and rock fragments from the surface immediately adjacent to the point of collapse of the retaining wall.

September 1, 2009

[Redacted]
Case Number: ISB-PW-09-0080

conducted a search of the World Wide Web “Internet” for images of the Lassen Peak Trail at Lassen Volcanic National Park. At http://www.panoramio.com/photo/12913012 is an image identified as “Left to go to the top of Lassen Peak, 9700ft” by: ~., which was uploaded to the site on August 8, 2008. This is the sole image available in public domain that could be located which appears to show the precise site of the wall collapse prior to the time of the incident76. While she appears to live in the San Francisco Bay Area, no record of ~. could be located in DMV and public database records.

November 16, 2009

requested clarification of reports of interview and written statements from Thomas Botell Sr. and Jennifer Botell via their attorney79.

conducted an interview, by telephone, of National Park Service, Pacific West Region78.

November 21, 2009

to~..sent an e-mail to ~. reporting his findings in a review of the “Reach the Peak” electronic folder retrieved from the Lassen Volcanic National Park computer server81.

November 24, 2009

transferred the Digital Video tape created by him, on August 26, 2009 to a digital .mpeg format to facilitate transfer. This file is logged at Item 73 in the document registry. The original tape version remains in evidence, as indicated on the attached evidence record.

November 25, 2009

interviewed .. by telephone at her office in the National Park Service, Pacific West Regional Office, Seattle Washington. A supplemental report documenting this interview, a follow-up interview on December 3, 2009 and documents provided by ~.. on December 3 is attached to this record82. A compact disc containing images of the Lassen Peak Trail was provided by B ~. and documented as evidence on December 9, 200983.

December 9, 2009

78 Supplemental Report: Photograph of site of wall collapse prior to incident from “Internet” search
79 Letter requesting clarification or additions from Thomas and Jennifer Botell, by ~.
80 A and B – E-mail and Supplemental Report: Interview of ~. USNPS
81 E-.~..sent to ~. reporting his findings in a review of the Reach the Peak computer folder.
82 A, B and C Supplemental Report of interview ~.. USNPS
83 Evidence report indicating Item# 11, compact disc
reviewed the documents recovered from the Lassen Volcanic National Park computer server by ... titled “Lassen Peak Trail Documents.” The following documents were found to be relevant to this investigation and are made a part of this report.

- “Initial Peak Enhancement Detail” (03/26/07), identifies trail damage and estimates costs for rehabilitation of Lassen Peak Trail.
- “Proposal cover letter to Jarvis” (03/26/07), seeks funding for Lassen Peak Trail rehabilitation.
- Trail Condition Survey Assessment (2002), identifies problems with Lassen Peak Trail.
- Lassen National Park Trail Assessment, September 24th-26th 2007 (by).

NOTE: File names were changed by addition of a document number, where included in this report. All MSWord documents included here were published to the folder as PDF documents to ensure that the text remained unchanged.

December 9, 2009

made a detailed comparison of digital images taken by various persons and video footage captured on August 26, 2009. Based on this comparison, he concluded that a single section of wall ("Wall 1") fell on July 29, 2009, injuring the Botell children. A second section of wall (Wall 2), originating from a point immediately adjacent to the original, was found on August 26, 2009, down slope and 34' south from the point of rest from the first.

At the request of contacted for clarification concerning his observations on August 4-5, 2009. reported to that he had seen Lassen Park Trail and on the trail on August 4 or 5, 2009 rolling wall sections downhill at the direction of park management.

reported to that he had also been unable to “read” the external hard drive provided by after it was also found to be unreadable on computer. reportedly sent the drive back to immediately contacted at Yosemite N.P. who took possession of the FedEx parcel sitting on the desk a short time later. was absent from her office at the time.

December 14, 2009

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conducted an interview with  via telephone. He confirmed that he had prepared the trail report dated September 24-26, 2007, provided to him by  stated he had also prepared a "Trail Log" documenting points along the trail with comments as to their condition. He stated that he had this document in his possession by that date could provide a copy when he returned to his office.

conducted an interview with  via telephone, to clarify several points from earlier interviews and to obtain a copy of the trail log identified by . stated he had no idea who rolled the wall section, initially located immediately adjacent to the one which injured the Botell children, down the hill.

conducted an interview of  via telephone, to clarify several points from earlier interviews . stated he did not know who rolled the section of wall, initially located immediately adjacent to the one which injured the Botell children, down the hill.

conducted an interview of  via telephone, to clarify several points from earlier interviews . reiterated that he had seen and roll two wall sections downhill and understood they were there performing those actions at the directive of their supervisors.

conducted an interview of  via telephone, to clarify several points from earlier interviews . stated he and went to the Lassen Peak Trail, at the directive of his immediate supervisor , with instructions to make the trail safe to reopen. When they had prided down two loose wall sections they decided that the task was too large to accomplish in a short time and returned to the Mineral Work Station (Lassen National Park) and reported this to

December 15, 2009

conducted an interview of  via telephone, to clarify several points from earlier interviews . stated he pushed the missing wall section off the hill with the assistance of  and at the direction of .

 spoke with  and  at office in Yosemite NP. reported that she also could no longer "read" the drive she had sent to and speculated that as it was quite old it may have been damaged during shipment. agreed to ship a new
January 11, 2010

[redacted] received confirmation that a third (new in the box) external hard drive he sent [redacted] had been received by her. [redacted] stated she had successfully loaded approximately 40+ gigabytes of data onto the drive and returned it directly to [redacted] by FedEx on January 8, 2010. The data reportedly consisted of video, shot in June of 2009, of the Lassen Peak Trail, including the section of wall that collapsed96.

[redacted] communicated with [redacted] concerning his review of a draft copy of this report as the point of contact from the client NPS Unit. The chronological narrative at July 29, 2009 12:30 was modified to include reference to [redacted]

[redacted] communicated directly with [redacted] concerning a single letter typographical error in the face sheet of this report and the inadvertent use of bolded text in the [redacted] interview. These issues were corrected.

The reports of this investigation were published and printed copies were prepared for signature at an anticipated meeting between [redacted] and [redacted] on January 12, 2010. A single document is outstanding pending the anticipated receipt of a functional external computer drive containing video from [redacted].

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Reporting Agent
CONCLUSIONS:

The Lassen Peak Trail was constructed in the early 1900's, initially through private funding, as part of a Lassen Peak Highway/Trail corridor, to provide access to Lassen Peak and its environs for visitors. Later, when the Lassen Volcanic National Park was established, further construction and maintenance of the trail to the summit of Lassen Peak was taken over by the US Government. During a period of historical significance from 1925 through 1941, the current general alignment of the trail was established. Dry stack rock retaining walls were built by the Civilian Conservation Corps from 1933 through 1941. Over the intervening years, the dry stack walls have been rebuilt or repaired many times.

In the late 1970's and particularly in 1979 the dry stack rock walls built by the CCC on about the upper 1/3 of the trail, beginning about 7800' from the trailhead, were replaced using a wet mortar and rock construction technique. Much of this wet mortar type construction remains in place, although some sections had slumped and/or migrated downhill due to weathering and human foot traffic, prior to the July 29, 2009 incident. Evidence this erosion and movement is visible in images captured during this investigation.

According to this type of construction lends itself to significant erosion of supporting material at the base of the walls. This is due to water runoff which collects behind the water impermeable wall during rainfall and snowmelt events. The water then runs down the back side of the wall and flows out under the base, taking the supporting substrate with it. Statements made by and documents produced by he and other NPS officials indicate that "trail cutting", or human foot traffic shortcutting trail switchbacks further accelerates this erosion, particularly near the ends of the walls closest to the switchbacks.

stated that when the wet mortared walls were constructed, they were insufficiently ballasted. This means that the footing of the walls is insufficient to hold them in place as it is neither sufficiently massive nor appropriately anchored to the mountain to allow them to remain in place when exposed to weight imposed by snow loading, water runoff and human foot traffic. She reported finding no evidence of anchoring of the walls to the bedrock of the mountain by use of metal rebar or the like. The walls are essentially long, thin structures floating on talus on the sides of Mount Lassen and highly susceptible to rotational forces which could cause them to tumble down the mountainside.

This erosion and instability was identified by the National Park Service as early as 2002. Over the past 3-5 years efforts by park staff were made to identify legal and historically appropriate alternatives to rehabilitation of the trail. In 2007 and 2008, experts from the California State Parks and Recreation Department were brought in to assist with evaluation of the existing trail, attempt to identify alternatives and assist with estimating rehabilitation costs. This process also sought to acquire funding to accomplish the trail rehabilitation which has been variously estimated at between 2.2 and 3.0 million dollars.
Shortly before 12:42 PM on July 29, 2009, Thomas Anthony Botell Jr., aged 9, Katrina Botell, aged 13 and Brittany Botell, aged 7 were hiking with their parents Thomas Anthony Botell Sr. and Jennifer Botell on the Lassen Peak Trail. The three children sat on the northern end a section of wet mortar retaining wall construction. The nearest end to the trailhead is located about 8,319 feet along the trail and is the end of the wall upon which the children sat. The children had reportedly hiked a short distance ahead of their parents and sat down on the wall to wait for them to catch up.

At that time, the northern most segment of the wet mortared rock retaining wall, measuring about 4' in length may or may not have been attached to the rest of the wall, but was originally constructed as a single unit. As a result of the additional load imposed by the weight of the children, the 4' wall section, if not already detached, separated or sheared off from the remainder of the original wall. It certainly began to move downhill over the native talus surface and simultaneously began a rotational movement on its long axis, essentially tumbling downhill on the fall line.

As a result of the downward shift and rotation, Thomas Jr. and Katrina were pitched forward and face downward in front of the path of the now rolling wall section. Brittany was thrown off to the side, caught herself on her hand and sustained a minor bruise from contact with the ground. Thomas' right foot was trapped under the wall which continued to roll over him, causing a large laceration to the back of his right thigh. As the wall segment continued to roll downhill it crushed Thomas' upper right thorax between the ground and the wall, possibly against a rock outcropping immediately above the next lower section of trail. Continued movement of the wall and Thomas' body caused significant displaced alignment of his cervical spine before he came to rest. According to [redacted], blunt force trauma injuries to the thorax and cervical spine of Thomas Botell Jr. caused his death.

Thomas remained conscious and then semi-conscious for several minutes after being freed from underneath the wall segment by his father. A short time later, he lost consciousness and was nearly immediately found to be without a pulse not breathing. Bystanders performed CPR until relieved by professional responders at 2:12 PM. At 2:18 PM resuscitation efforts were terminated in accordance with established medical protocols. Thomas' body was later transported by California Highway Patrol Helicopter to Benton Airpark in Redding and transferred to the Shasta County Coroner.

Simultaneous to the movement effecting Thomas, Katrina who was seated to his right was also pitched forward on to the surface below the wall. The movement of the wall caused a laceration to her scalp and fractures to bones in her head. Katrina came to rest, partially trapped under the wall and lying on the trail immediately below where she had been sitting. She was freed by her father and cared for by her mother for about 90 minutes until professional emergency medical caregivers arrived and took over. Katrina was evacuated by helicopter to Mercy Medical Center in Redding, Ca where she was treated and later released to return home.

*NOTE: A written statement attributed to Katrina Botell, published at [http://www.tommybotell.com](http://www.tommybotell.com) indicates that Brittany Botell did not sit down on the rock wall prior to it collapsing, as was otherwise reported.
The Lassen Peak Trail was closed to public access the following day and remained closed on August 26, 2009. Documentation, in the form of witness statements and interviews, digital still images and digital video images, of the condition of the trail before and after the incident are contained in this report.