covered up underneath and behind his large frame pack and helmet. (Source: Jim Ferguson, NOLS leader)

(Editor's Note: Of the six "Falling Rock" accidents in Washington this year, three were fatal. The primary considerations were [1] large numbers in the same location; [2] no hard hats: and [3] poor position of victims.)

FALL ON ROCK, CLIMBING UNROPED Wisconsin, Devil's Lake State Park

On June 1, 1986, Joseph Aulbach (26) and Peter Ostebo (25) were doing some climbing on Balanced Rock. According to Aulbach, he was standing below Ostebo, at the base of Balanced Rock, watching Ostebo climb down the rock. Ostebo lost his footing and fell approximately eight meters to the ground. As he was falling, he brushed against the rock wall and his arm got twisted behind his back. He landed feet first, then fell backwards onto the ground. His right elbow hit the ground and absorbed all the impact from his body weight (85 kilograms). When he lost his footing, Aulbach was unable to prevent him from falling because they were unroped. (Source: Judi Nigbor, Ranger, Devil's Lake State Park)

Analysis

Aulbach said he did not realize Ostebo was having trouble with his footing. Ostebo did not say anything or show any signs of fatigue while he was climbing.

Aulbach said Ostebo did not have a rope on when he fell. He further stated that he had been climbing with Ostebo for five years, and only knew of his using a rope twice. "Pete preferred to climb without ropes." (Source: Judi Nigbor, Ranger, Devil's Lake State Park)

FALL ON ROCK, INADEQUATE PROTECTION Wisconsin, Devil's Lake State Park

On July 25, 1986, Beth Haynes (21) and Amy Solomon (27) were climbing Schizophrenia when Haynes, who was leading, fell to the ground from near the top of the route, a distance of about seven meters. She compound fractured both wrists and sustained possible neck and back injuries. She was evacuated by park personnel to a medical facility. (Source: Mark Hays, Ranger, Devil's Lake State Park)

Analysis

According to Amy Solomon, Haynes was an experienced climber, but she only put in protection every meter or so, and was three meters above her last protection piece when she fell. None of the protection pulled out. (Source: Mark Hays, Ranger, Devil's Lake State Park)

FALL ON SNOW, FALL INTO MOAT WHILE GLISSADING Wyoming, Tetons

On June 21, 1986, Fredrick Sigekrans (22) and Jeffrey Balin (21) were descending from the saddle between Middle and South Tetons by glissading. They reached a point a hundred vertical meters above the Meadows where Sigekrans knew there was a crevasse. He cautioned Balin about this crevasse and both detoured to avoid it. Balin soon started another glissade, but went only about four meters before he fell into a moat that he didn't see. Both climbers estimated that Balin fell about eight meters vertically down into the moat.

Sigekrans climbed to a position where he could look down and see Balin. Balin apparently lost consciousness for a while. However, after about five minutes, Balin was able to start traversing in the moat, being unable to climb out of it. He traversed the moat by bridging between the rock wall on one side and the snow wall on the other side, finally reaching a point where the moat was less deep. In the meantime, Sigekrans' calls for help had brought several other unidentified climbers to the scene. One of these climbers kicked steps in the snow wall of the moat, reached Balin, tied a loop of rope under Balin's arms, and assisted him out.

Balin was then assisted down to his campsite at the Meadows, where he then waited for evacuation. Sigekrans ran to the Jenny Lake Ranger Station and reported the accident. A helicopter flew Balin to St. John's Hospital by 1630. He sustained head lacerations which required stitches. (Source: Peter Armington, Ranger, Grand Teton National Park)

Analysis

This area is commonly glissaded, unroped and unprotected. The runout is usually good. Climbers can see the hazards from Garnet Canyon and on the ascent. Moats are so common here that this accident is reported in hopes that climbers will be reminded of this again. (Source: J. Williamson)

FALL ON ROCK, TOP-ROPE ANCHOR PULLED OUT Wyoming, Blacktail Butte

On July 5, 1986, Chuck Blackwell (27) was attempting a 5.11 move on Blacktail Butte when he fell about a meter. His partner, Chris Lloyd (24), was belaying from below—the rope being anchored on top. The anchor came away, and Blackwell, the rope, and anchor rigging fell nine to 12 meters onto a narrow rock ledge. He continued to tumble the rest of the way down into a tree and bushes. He was evacuated to St. John's Hospital, where his injuries were reported as fractures of the pelvis, ankle, and ribs, and a pneumothorax. (Source: Joel Ellis, Ranger, Grand Teton National Park)

Analysis

I investigated the top-rope anchor that failed on July 5, 1986, at Blacktail Butte that resulted in the injury of Chuck Blackwell. The anchor was set up by Chris Lloyd, who had climbed at the same place four days previously. At that time, Lloyd's climbing partner (not Blackwell) set the anchor. Lloyd remembered that the anchor took small nuts, so that was all that he took to set up the anchor.

One of the anchors was a #8 Stopper slung with nylon rope set into the crack between the wall and a detached rock. After the accident, it appeared that the rock had not moved, since the soil at its edge was not disturbed. A 2.5 meter length of 2.5 millimeter nylon webbing was attached to the nut sling by a carabiner. About two meters from the carabiner, a loop was tied in the sling, and a carabiner for the belay rope was attached. The end of the webbing was tied to another piece of webbing that was clipped to two