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CRATER DEPOSITORY
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HEARING

BEFORE THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS UNITED STATES SENATE

NINETY-FOURTH CONGRESS

FIRST SESSION

ON

OVERSIGHT TO CLARIFY CIRCUMSTANCES WHICH LED TO CLOSURE OF CRATER LAKE NATIONAL PARK

MEDFORD, OREG., SEPTEMBER 6, 1975

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CRATER LAKE NATIONAL PARK

SATURDAY, SEPTEMBER 6, 1975

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Medford, Oreg.

The committee met, pursuant to notice, at 9 a.m., in the City Hall, city of Medford, Jackson County, Oreg., Hon. Mark O. Hatfield presiding.

Present: Senator Hatfield.

Also present: James P. Beirne, counsel; Walter Fialkewicz, professional staff member; and Tom Imeson, legislative aide to Senator Hatfield.

OPENING STATEMENT OF HON. MARK O. HATFIELD, A U.S. SENATOR FROM THE STATE OF OREGON

Senator HATFIELD. The committee will come to order. I would like at this time to make a brief statement concerning the matter for which this committee has been called for this hearing here in Medford.

This is the time which has been duly noticed for an open hearing before the Committee on Interior and Insular Affairs. This is an oversight hearing to clarify the circumstances which led to the closure of Crater Lake National Park on July 11 of this year.

Serious allegations have been raised concerning the events which led to the decision to close the Park. These allegations have cast a shadow over the performance of the various officials and enterprises which have important responsibilities to the public who seek to enjoy these monuments of nature which we have preserved for this and future generations. Public confidence in the integrity of this Government's custodianship of our national parks and monuments is at stake. I think that allegations have been raised that a coverup was engineered by the park, concessionaire and the National Park Service, that pressure was brought on officials in Washington and on officials in public health agencies to ignore the serious threat to the public, and that the concessionaire's employees who handled food at the park were made to work while sick, further endangering the public.

What is clear is that the water supply at the national park became contaminated with sewage, that many of the concessionarie's employees, park employees, Youth Conservation Corps volunteers, and members of the public became sick from drinking the contaminated water, and that the source of the illnesses was not immediately determined.

The purpose of this hearing is to determine why the water supply became contaminated, why the contamination was not detected earlier,

and precisely what actions were taken by the National Park Service, the Public Health Service, and the park concessionaire during this period. It is not the purpose of this hearing to lay blame for the occurrences at Crater Lake at the feet of any individual or agency, but to determine what happened and why.

No conclusions have been drawn at this time and I would like to make clear that no conclusions will be drawn until the record of this hearing and the staff investigation is presented to the full committee. Chairman Jackson and other members of the committee are as concerned as I am that the events which led to the closure of the park occurred, and about the allegations which have been raised. My instructions from the chairman of the committee were specific and clear. This hearing and the staff investigation is to determine what happened and why. On the basis of that record, I will make my recommendations to the committee to prevent a recurrence of this type of situation.

Our first witness will be Mr. Richard Sims, Superintendent of Crater Lake National Park. Mr. Sims will please come to the microphone.

Good morning, I am very happy to see you, Mr. Sims.

Now I wonder if Mr. Wiggins, the Chief Interpretation and Resource Management, will join Mr. Sims; Mr. Ernest Borgman, Superintendent of the Klamath Falls Park Group; Mr. Thomas J. Adams, National Park Service, Chief Maintenance; and Mr. Frank Whitaker, Crater Lake National Park Maintenance Manager. If all of you gentlemen will please join Mr. Sims at this time at the table.

STATEMENT OF RICHARD H. SIMS, SUPERINTENDENT, CRATER LAKE NATIONAL PARK; ACCOMPANIED BY JAMES P. WIGGINS, CHIEF, INTERPRETATION AND RESOURCE MANAGEMENT; ERNEST BORGMAN, GENERAL SUPERINTENDENT, KLAMATH FALLS GROUP; THOMAS J. ADAMS, FACILITY MANAGEMENT OFFICER, KLAMATH FALLS GROUP OFFICE, AND FRANK WHITAKER, CRATER LAKE NATIONAL PARK MAINTENANCE MANAGER

Mr. SIMS. This is James Wiggins to my left, he is Chief of the IRM, which is interpretation and resource management; on my right is General Superintendent, Ernest Borgman; next to him is Chief Adams, who is Chief of Maintenance; and next to him is Frank Whitaker, who is the PMO foreman at the park.

Senator HATFIELD. Mr. Sims, you have presented the committee with a written statement, and you may proceed now, if you will, to read it.

Mr. SIMS. All right, sir. My name is Richard H. Sims. I am Superintendent of Crater Lake National Park. I have been with the National Park Service for approximately 20 years. I was employed on a temporary basis in April 1954, and was converted to career conditional appointment in 1955.

Senator HATFIELD. Excuse me, Mr. Sims, if you would project a little bit more. I don't believe these microphones are picking your voice up.

Mr. SIMS. In 1962 I received a permanent appointment as a park ranger at Badlands National Monuments. I have been with Crater Lake National Park since October 23, 1973.

During June and July of 1975, the people living and working at Crater Lake National Park, as well as visitors, were victims of a tragic, unprecedented occurrence. It should be understandable that those persons involved did not know exactly what actions to take or at what time certain actions should have been taken. Any person in the park could have taken appropriate action at any time had they known what the problem was and what action to take. Mistakes were made by many individuals, but all actions taken were taken in good faith based on what was known at the time.

Circumstances which made this incident possible include a sewer line constructed above the main water source located at Munson Springs, a rock that somehow got into the sewer line at a manhole below the Rim Lodge and plugged the sewer line, and a deep snow pack that prevented detection of the overflow sewege. A significant element that misled park officials was that the park water samples taken May 27, June 9, and June 23, 1975, during this critical period, all showed no sign of contamination.

One of the most significant dates during this unfortunate occurrence was July 1. It was on this date that a significant number of individuals became ill. It was also on this date that a great many agencies and individuals became aware of the problem and became active in taking a part working to solve the problem. Among those agencies involved at this time were the Klamath County Health Department, Environmental Protection Agency, Pacific Northwest Regional Office (National Park Service), Klamath Falls Group Office (National Park Service), the U.S. Public Health Service, and the Oregon State Health Division. My sincere thanks goes to all of these agencies and the people who represented these agencies who worked so hard and tirelessly to help discover what the cause of the illness was at Crater Lake. The illness did not seem to fit the pattern of an illness caused by water contamination according to a U.S. Public Health Service Officer.

A chronology of the events follows:

On May 21, the water was turned on at the lodge building at the Rim and two persons moved into the lodge.

On May 27, water samples taken at the Rim restroom and pumphouse tested 0 positive/5 negative. I might explain those water samples weren't seen at the park until approximately a week later. This is the date they were taken.

Water sample taken June 9 from Munson Springs at the Rim restroom and pumphouse also tested 0 positive/5 negative, which is a good water sample.

On June 7 several employees moved into the lodge.

On June 13 the lodge opened for the season. It had 80 to 90 percent occupancy during the rest of June. Total occupancy is 265 persons.

From June 16 to 20 we had our seasonal employee training and no causes of illness were reported to the park staff at this time.

Senator HATFIELD. Mr. Sims, let me interrupt a moment. I am always torn between two procedures, whether to interrupt at the time of the witness' statement that I want to question him on, or whether to wait until he has completed the entire statement, then go back and ask the questions. Because we have such a very important sequence of dates in this particular issue that we are holding this hearing on, I think I shall choose to interrupt you if that is all right.

Mr. SIMS. Fine.

Senator HATFIELD. And to make certain that we keep the subject matter therefore committed to the specific point at the time you make a point.

Then if you will now go back to the first page of your statement, I would like a clarification for my own benefit and for the record. In your third paragraph you indicate that "Circumstances which made this incident possible include a sewer line constructed above the main water source located at Munson Springs." Would you, for the record, tell us when this sewer system was established at Crater Lake? I believe prior to that time we were on a septic tank?

Mr. SIMS. That is correct, sir. The sewer line as it is at the present time was installed approximately 10 years ago, the sewer line that became plugged.

Senator HATFIELD. And who designed the line?

Mr. SIMS. I think the Office of Design and Construction, which was in San Francisco at that time. I am not absolutely certain.

Senator HATFIELD. But it was the National Park Service's?

Mr. SIMS. I believe so, yes.

Senator HATFIELD. Is it true this sewer line crosses the water catchment area?

Mr. SIMS. It crosses what is the drainage, which I might add I was not aware of at the time.

Senator HATFIELD. Would this, in your own mind, raise a question as to the original design, the propriety of designing a sewage system that has this kind of bisection of the water?

Mr. SIMS. Yes; it would, sir.

Senator HATFIELD. And this was under the authorization, jurisdiction, and responsibility of the National Park Service, this design and this installment and installation?

Mr. SIMS. That is my understanding, sir.

Senator HATFIELD. Mr. Sims, you state in that same paragraph:

> A significant element that misled Park officials was that the Park water samples taken May 27, June 9, and June 23, 1975, during the critical period, all showed no sign of contamination.

Let us go back, do you have any kind of record that indicates in March 1975 that there might be a water problem?

Mr. SIMS. In March of 1975, we had one water sample come back with a 1 positive/4 negative, which is the least amount of contamination you can show in a water sample.

Senator HATFIELD. And who conducted that sample survey?

Mr. SIMS. I believe that sample was taken by Mr. Blankenship, I am not absolutely certain.

Senator HATFIELD. But this in effect did indicate that there was a possible problem with water?

Mr. SIMS. It indicated there was a slight amount of bacteria at that time.

Senator HATFIELD. In March of 1975?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Now. Mr. Sims, did you have any further evidence that there might be a water problem between March and May 27?

Mr. SIMS. Yes, sir.

Senator HATFIELD. On May 15?

Mr. SIMS. I think it was May 12.

Senator HATFIELD. The 12th, all right. What did you have on May 12?

Mr. SIMS. We had two water samples that came back with 2 positive/3 negative.

Senator HATFIELD. And who conducted those water samples?

Mr. SIMS. I believe they were taken by Mr. John Boche.

Senator HATFIELD. And where were those samples taken? First of all, let me back up a minute. How many possible sites for sample taking do you have at Crater Lake, four?

Mr. SIMS. It varies from time to time.

Senator HATFIELD. All right.

Mr. SIMS. The samples taken May 12, I believe, were taken from the maintenance office and the Rim restroom, I believe.

Senator HATFIELD. Or perhaps the administration building?

Mr. SIMS. Perhaps, I am not certain.

Senator HATFIELD. Could we establish that?

Mr. SIMS. I have got them here, I can check.

Senator HATFIELD. Would you check that to see where those samples were taken on May 12? I believe the record will show they were taken at the administration building and the maintenance office.

Mr. SIMS. One was taken at the maintenance office and one was taken at the administration building.

Senator HATFIELD. Right. Now, that was on May 12?

Mr. SIMS. Yes, sir.

Senator HATFIELD. You start your tests with the samples taken on May 27, could you tell us for the record where those samples were taken on May 27?

Mr. SIMS. Those samples were taken from the pumphouse and from the Rim restroom.

Senator HATFIELD. From the pumphouse and the Rim restroom. Now, they showed negative?

Mr. SIMS. That is correct.

Senator HATFIELD. The samples taken on May 12, though, showed positive?

Mr. SIMS. They showed 2 positive.

Senator HATFIELD. And they were taken, though, at the maintenance office and the administration building?

Mr. SIMS. That is correct.

Senator HATFIELD. Why were the samples taken on May 27 not taken then from the places that showed positive on May 12?

Mr. SIMS. I do not know, sir.

Senator HATFIELD. Again I believe you state your samples were taken on June 9?

Mr. SIMS. Yes.

Senator HATFIELD. And those were taken, I believe the record will show, at the Rim restroom and the maintenance building, is that correct?

Mr. SIMS. I believe that is correct, sir.

Senator HATFIELD. All right.

Mr. SIMS. At the Rim restroom and the pumphouse, at the Rim restroom and at the Munson Springs pumphouse.

Senator HATFIELD. And they showed negative?

Mr. SIMS. They showed 0 positive/5 negative, which was a good sample.

Senator HATFIELD. But we still had not taken tests on June 9 where they had shown positive on May 12, did we?

Mr. SIMS. That is correct.

Senator HATFIELD. Do you know why in trying to figure?

Mr. SIMS. I believe what happened was that these resamples were made prior to the time of the other samples arriving. There is such a time lapse between the time you take a sample and before it arrives back in the park that they had already retaken their samples prior to the time these other samples had come into the park.

Senator HATFIELD. You state June 23 was another sample. Let me recall for the record that on June 23 we had seven staff and three other leaders of the YCC arriving at Crater Lake, and they received reports flu was going around, and you took samples at the Rim restroom and pumphouse, but no tests were taken at the administration building where there had been that earlier positive showing; is that correct, according to your record?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Thank you. Now, will you please proceed with the reading of your statement? I believe you were about ready to give us the sequence of dates, weren't you?

Mr. SIMS. I believe I was about to June 21 where Ed and Judy Weekly, the YCC cooks, arrived at the park.

Senator HATFIELD. All right.

Mr. SIMS. On June 22 we had an evening park welcome party for seasonal personnel, and again there was no known illness that I was aware of or had been reported at that time.

On June 23——

Senator HATFIELD. Let me ask you there, when you speak of no known illnesses you're speaking of the personnel related to the agencies involved, the YCC, the concessionaire, the park personnel?

Mr. SIMS. I'm really not speaking of the concessionaire because I don't have that close an association.

Senator HATFIELD. You are speaking of the——

Mr. SIMS. Park service people, and I believe that would include—they had just arrived in the park that day, the YCC—but I am speaking mainly of the park personnel on this June 23 date.

Senator HATFIELD. Are you aware whether or not there were others who were ill at this date, though, who were not in these categories, such as families of seasonal members or others in the park area?

Mr. SIMS. No, sir, I was not aware of any other illness.

Senator HATFIELD. All right. Are you aware now that there were such other people ill?

Mr. SIMS. I am aware——

Senator HATFIELD. Reported ill?

Mr. SIMS. Very few other reported illnesses. I don't think there was any significant number.

Senator HATFIELD. So where you say in your testimony, "no known illness," this was restricted only to those persons connected with the official activity of the park service?

Mr. SIMS. I am speaking more of employees of the park service.

Senator HATFIELD. I think the record should show there were no reported illnesses at all in the park area on this date. Please proceed.

Mr. SIMS. We don't know of any on that particular date. There may have been other isolated illnesses earlier in the month, I don't know of any.

Senator HATFIELD. All right.

Mr. SIMS. And on that date water samples were taken from Munson Springs, taken at the Rim restroom and pumphouse, tested 0 positive/5 negative. And it was on that date that one of our employees did report ill. I wasn't aware of it on that particular date. I am not exactly sure when I did become aware of it, but we did have a park employee, Marion Jack, who to my knowledge is the first person who became ill as a result of the water.

Senator HATFIELD. Do you have a record of illnesses or failure to report to work because of illnesses of just your own staff but not their dependents?

Mr. SIMS. That is correct.

Senator HATFIELD. Were you aware of dependents who were ill on this date?

Mr. SIMS. No, sir. On June 24 I gave a welcome talk to our YCC staff who had just arrived the previous weekend. I do recall telling them I considered them a part of our park team.

On that date the first illness occurred in the YCC staff, and it was that evening my own son became ill, and it was my first knowledge of any illness we had in the park. Also on that date Mr. Echols and Mr. Chuck Woodbury, Pacific Northwest regional office, were in the park to make a safety, health, and maintenance inspection. I reported to General Superintendent Borgman by telephone about the inspection. I do not recall whether I made any mention of illness, it is doubtful I did, because at that time my son was the only illness I was aware of.

On June 25 I met again with Mr. Larry Echols and Mr. Chuck Woodbury on their findings, but we did not discuss illness in the park unless I might have mentioned that my son had been ill the night before or something like this. This June 25 was the first date we had substantial illness in the park. I was not aware of the total number at the time, but figures later showed 10 park employees and 4 YCC people were ill on that date.

On June 26 the number of persons ill was back down to two park employees and two YCC members.

Miss Judy Dahlberg, Klamath Falls group office, had spent the day of June 26 in the park assisting our staff, and she later reported that she was not aware of any illness in the park during that day she was there on the 26th.

On June 27, Jeff Adams, our facility management officer, and I discussed the water, and Jeff assured me the water was all right. And I am sure he was very sincere in this, and he is very knowledgeable about the utilities in the park, and the water sample reports of course confirmed his feelings.

On June 29, 27 of the YCC enrollees arrived in the park.

On June 30 Ranger Bob Ellis conducted a food facilities inspection at the Rim Village, and nothing was reported to me as a result of that inspection.

On June 30, assistant YCC director Jerry Higgins asked permission of Mr. Wiggins to take a water sample, and I, when informed of the request, granted permission. I understand that this permission was subsequently revoked by Mr. Wiggins after consultation with Mr. Adams. I do not recall being informed of this action although Mr. Wiggins stated he did so. But as a result of this, Jack Stump, who is one of the YCC counselors, picked up water bottles, sample bottles, at the Klamath County Health Department, and as it turned out it is very fortunate that he did, because this action alerted Dave Bussen of the Klamath County Health Department that here was what we thought at the time flu going around, and as a result Mr. Bussen did contact the Oregon State health people either on that date or July 1, I am not sure which date.

July 1 was the first day of large scale illness as now confirmed by data, but the extent was unknown at the time because much of this illness occurred late in the day or in the evening. I was to learn 6 park employees were ill and 22 of the YCC enrollees became ill on that date.

YCC Counselor Jack Stump took water samples and delivered them to the Klamath County Health Department.

Bill Mullen of the Environmental Protection Agency in Seattle was contacted by Dr. Holmes of the Oregon State Health Division. Bill Mullen proceeded to advise Mr. Larry Echols, PNWR engineer in Seattle.

Peter Von Ohlen, Oregon State Health Department, regional engineer, called me that same day, July 1, and said he would be in the park July 2 and 3 to make an inspection of the water and sewer systems, and I, of course, welcomed him. I was glad to have any assistance. At the time we still had no idea what the problem was.

On this date the Environmental Protection Agency, Pacific Northwest region of the National Park Service, U.S. Public Health Service, Oregon State Health Division, Klamath County Health Department, all knew of the problem at Crater Lake. In my statement I also have the National Park Service of Washington, D.C., but I do not believe they had the word until the following day. I had taken that statement off a report.

I had met with Jim Wiggins, chief of interpretation and resource management, and YCC Director Stubblefield and Jerry Higgins to discuss YCC projects, and there was no real concern expressed over the illness at that time. Since a number had been ill, I do remember expressing my concern and asking that they be very careful about not overworking the YCC people, and give them the best of care.

Also, on that date——

Senator HATFIELD. Before you leave that particular issue, you had this meeting on July 1 with Jerry Higgins to discuss YCC projects and no concern was expressed over illness, do you know at that time what YCC youths were reported ill?

Mr. SIMS. I don't remember, but I think it was back down substantially. About 22.

Senator HATFIELD. Twenty-two I believe.

Mr. SIMS. Yes; on July 1.

Senator HATFIELD. July 1.

Mr. SIMS. And I believe that was later in the day and evening that so many more of them became ill. At the time there probably weren't near that many ill.

Senator HATFIELD. Didn't that trigger some question in your mind on that particular day when 22 of these students youths were reported ill that the gist of your conversation was there was no concern expressed?

Mr. SIMS. Again I repeat I do not believe there were near this many ill at the time of the day we met or I believe it would have been brought out, and I know we would have been very concerned. I think it was more toward evening that this many of the youths became ill.

Senator HATFIELD. What was the total number of youths in this group?

Mr. SIMS. There was a total of 30 youths and a staff of 9.

Senator HATFIELD. So over 50 percent of them were ill on this date.

Mr. SIMS. On that evening; yes.

Senator HATFIELD. When did you become aware of that figure, did you say that evening after your conversation with Jerry Higgins?

Mr. SIMS. I don't know if I ever became aware of that figure until later after this thing was all put together and the figures tabulated.

Senator HATFIELD. You have not thus far reported on the concessionaire, do you know how many were reported ill on that particular day in the concessionaire's organization?

Mr. SIMS. No, sir, I do not. I have heard the figures, it seems like that may have been the day they had a substantial number ill too, I am not certain.

Senator HATFIELD. But you were not aware of it on that date?

Mr. SIMS. I was not.

Senator HATFIELD. Do you recall about when you did become aware?

Mr. SIMS. Of the——

Senator HATFIELD. Of the number of the concessionaire's employees who were ill on that day.

Mr. SIMS. The day we had our board of inquiry meeting.

Senator HATFIELD. Totally after the fact then?

Mr. SIMS. Yes, sir.

Also, on July 1, Bill Stradling, a professor at Eastern Washington State College, contacted Art Hathaway at the Spokane field office to relay a report from his daughter, who is a concession employee, that there appeared to be a food poisoning problem at Rim Village, and that they were having a problem with their boss. Hathaway reported this to Associate Regional Director Wayne Howe who relayed the information to Acting Regional Director Ed Kurtz.

On July 2, Mr. John McCutchen, with the Public Health Service Consultant in Denver, consultant to the National Park Service, called me and I advised him of the situation at Crater Lake as I knew it to be at that time.

Senator HATFIELD. Well now, what did you advise him in terms of illness figures? I understand you were not aware of these total figures until much later, so what did you advise him?

Mr. SIMS. About all I can recall is we did have some sickness that I though to be flu. Apparently it wasn't enough to really concern him, because we didn't get any immediate response from them.

Senator HATFIELD. So I can clearly understand, there was some sickness at that time, what was your knowledge of the sickness? Who? What? How many?

Mr. SIMS. I knew we had some illness going around, but I really wasn't aware of the numbers. And the baffling thing was the one day there had been a number ill and the next day it was down to practically nothing, and it stayed low for several days.

Senator HATFIELD. This included YCC people, park personnel?

Mr. SIMS. Yes, sir.

Senator HATFIELD. None of the public, you had no——

Mr. SIMS. I had no knowledge.

Senator HATFIELD. The concessionaire's employees?

Mr. SIMS. I certainly wasn't aware of concession employees during this time.

Senator HATFIELD. During the general illness then, which you reported to your superior there was some general illness——

Mr. SIMS. Yes.

Senator HATFIELD. At that point you had no knowledge of any of the concessionaire's employees being ill?

Mr. SIMS. I had knowledge of one during the last week in June, and that was my own daughter who was slightly ill, she was not seriously ill. And I believe it occurred on her days off, so——

Senator HATFIELD. Well, did you take any action during this period, this specific period now, to determine the extent of the illness?

Mr. SIMS. No, sir, I didn't. My feeling at this time was simply we were having an occurrence of flu, and with the flu you get over it, or if you are more seriously ill, you go to the doctor.

Senator HATFIELD. This might be a good point to ask you what medical personnel or specialists you have, such as a nurse. Do you have a nurse?

Mr. SIMS. No, sir, we do not. We do have a wife of one of the rangers living at the park, but she is not——

Senator HATFIELD. Not on staff?

Mr. SIMS. No, sir.

Senator HATFIELD. So you have no medical or paramedical professional on the park staff?

Mr. SIMS. No, sir. We have some rangers who have had some training, emergency type first aid and that type of thing.

Senator HATFIELD. And you had no specific knowledge or you had not consulted with any of the other staff people on this date or leading up to this date as to the extent of the illness that was referred to as general flu illness in the park?

Mr. SIMS. The only person that I would have consulted with would have been Chief of IRN, Wiggins. He also was aware, and I am sure by this time he had told me, you know, we had a few people ill.

Senator HATFIELD. All right, now, we are on July 2, is that correct?

Mr. SIMS. Yes, sir. On July 2, Mr. Peter Von Ohlen, of the Oregon State Health Department, was in the park checking the water system with Jeff Adams assisting him.

On that evening about 10 o'clock I became ill myself.

Senator HATFIELD. All right, now, on this matter of checking the water system with Mr. Adams assisting, tell us a little bit about that check, would you, please?

Mr. SIMS. I was not actively involved. Mr. Adams did, I think, spend the entire time with Peter Von Ohlen, and they went over the water system of the park as I understand it.

Senator HATFIELD. What were they checking, the chlorine supply or bacteria, or what was the fact? What did the check consist of?

Mr. SIMS. I think it was a check consisting mostly of the facilities. Mr. Adams can tell us much more accurately.

Senator HATFIELD. We will reserve further questioning on that report then to Mr. Adams.

I believe in order to make the record complete, I think there was a chlorine report made on this occasion which gave four areas of chlorine content, but we will go into that with Mr. Adams at a later moment.

Mr. SIMS. All right.

Senator HATFIELD. Please proceed.

Mr. SIMS. Then on July 3, Peter Von Ohlen was in the park checking the water system again assisted by Facility Management Officer Jeff Adams. Jeff Adams checked the area of the sewer line running from the lodge and at that time found nothing. He reported there was 2 to 3 feet of snow still covering that area.

Senator HATFIELD. All right, now, you talk about making a review of the sewer line, with snow on the ground what would be the evidence of problem, what would one look for, or should I reserve that question for Mr. Adams?

Mr. SIMS. Mr. Adams can answer that better, but I think there would be holes in the snow.

Senator HATFIELD. He reported to you there was no such evidence of holes or whatever would be the things he was looking for?

Mr. SIMS. That is correct.

Senator HATFIELD. So you had a clear report on that particular type of inspection?

Mr. SIMS. Yes, sir. At the time he made this report I put in a call to Associate Regional Director Wayne Howe, and since Mr. Adams had made this inspection with Mr. Von Ohlen I had Mr. Adams go ahead and make his report directly to Mr. Howe.

Then I discussed the water situation with Mr. Adams again, and again he assured me the water was all right, there was no problem.

And it was on that same date, July 3, when I was called by Dr. John Googins, and he asked if we could bring a team to the park on July 4 to make an inspection and to examine some ill persons, and of course I welcomed him. I contacted YCC Camp Director Bruce Stubblefield and notified him of Dr. Googins' proposed visit, and requested that he have any ill YCC personnel available so that the doctor might examine them. Mr. John McCutchen of the U.S. Public Health Service called again, and I reported on the situation again as I knew it to be at the time.

On this date the Klamath County lab completed a 48-hour test on the YCC water samples at 11 p.m.—this is allegedly, I took this off

another report—and found them to be positive for coliform, negative for pathogens. The results of this report never reached me.

Senator HATFIELD. When did you become aware of that report?

Mr. SIMS. I believe I became aware of it the day we had our board of inquiry meeting about August 9.

Senator HATFIELD. I mean this report——

Mr. SIMS. Of the water samples taken by the YCC people and taken to the lab in Klamath Falls.

Senator HATFIELD. And that sample was taken by whom in the YCC?

Mr. SIMS. It was taken by Mr. Jack Stump.

Senator HATFIELD. Mr. Jack Stump. Did you know at this time the exact number of illnesses in the park?

Mr. SIMS. No, sir.

Senator HATFIELD. Did you take any steps to make a determination at this point——

Mr. SIMS. No, sir.

Senator HATFIELD [continuing]. As to how many people were ill?

Mr. SIMS. No, sir. On July 4 there was at attempt made by the group that came in with Dr. Googins.

Senator HATFIELD. Now, you knew there was a test pending at least in the Klamath Falls lab, you had a report from Mr. Adams as to an inspection he had made, you had discussed this matter with the associate regional director, you had a call from Dr. John Googins about coming to make an inspection and to examine some of the ill persons, and you had no determination as to how many were ill, or did, if I understood you correctly, you put into motion any particular action to make such determination?

Mr. SIMS. No, sir, I had not.

Senator HATFIELD. Did not that sort of excite your curiosity with all this kind of activity to find out through some kind of a survey just exactly what the extent of the illness was at that time?

Mr. SIMS. I can't say, sir. I didn't do it.

Senator HATFIELD. OK. July 4.

Mr. SIMS. On July 4 the YCC director, Bruce Stubblefield, apparently was notified by telephone by the Klamath County lab that the water samples taken by the YCC counselor, Jack Stump, July 1 were positive for coliform, negative for pathogens. I was never notified of this report. Stubblefield states he advised his staff and enrollees to take precautions by boiling their water before use.

On that day by chance I picked up YCC Counselor Peter Barnett and YCC Youth Leader Paul Czemerys hiking down from the rim, and they told me that the YCC group was leaving the park and going to bend to watch the fireworks display. When I returned to the park maintenance area, the YCC group was gassing their vehicles getting ready to leave. The entire YCC group departed the park before noon, reporting that everyone was feeling well and that they were going to bend to attend the fireworks display. I had no objection, I was pleased they were better, and that they were apparently on the mend at that time.

Dr. John Googins, Kathryn Jones, Ed Barnes, and Mike O'Neal all Oregon State Health Department employees, arrived in the park

shortly after noon. I believe they went to the administration building and called me, and subsequently they came to our home where I discussed the problem with them as it was then known. We decided Mrs. Sims would conduct Dr. Googins around the park in an attempt to locate ill persons for him to examine. They found it difficult to locate very many people who were actively ill on that day. I accompanied Kathryn Jones to park headquarters where I got the park sick-leave records for Miss Jones to record. Miss Jones also interviewed several employees who had been ill. I attempted to locate the YCC sick leave records but was unable to find them. I showed Mr. Barnes and Mr. O'Neal drawings of the water and sewer systems. Mr. Barnes conducted an inspection of the food facilities while Mr. O'Neal checked the water system.

I might add on that day I was of the feeling our flu problem had pretty well passed since there didn't seem to be very many people ill, and my feeling, which was very erroneous, on that date, July 4, I had the feeling our problem was apparently over, was on the wane, and everything was going to be all right.

On July 5, Rick DuBois of 225 Coachman Drive, Eugene, Oreg., reported in a letter to the editor of the Portland Oregonian, dated July 18, that he and his brother had found "a broken sewer line" the weekend of July 4 at Crater Lake. He told only his parents. It is very unfortunate, because if this had been reported to us we could have located the problem and discovered it and saved about 5 days on taking the actions that were ultimately taken.

And also on July 5 I went to the rim to observe the John Hillman program and everything at that time appeared to be normal.

On the evening of July 6 my wife and I went for a walk and stopped at the YCC dining hall and had a soft drink. Everything appeared to be pretty much normal. The cook was there and said her husband was out fishing with someone and she invited us to attend the YCC movie. And again, as far as I could determine, everything seemed relatively normal.

Senator HATFIELD. You were not aware all this time that the Oregon State Health Department had requested through official channels assistance from the PHS or CDC in Atlanta?

Mr. SIMS. I am not sure what date I was aware of it. I might have been on the 6th, because I knew Dr. Koplan was going to be in the park on the 7th.

And it was on the 7th Dr. Jeffry Koplan of the U.S. Public Health Service, epidemiologist from San Francisco, arrived about noon.

Senator HATFIELD. Do you recall in that inspection tour made by Mrs. Sims and Dr. Googins where you say they found it difficult to locate very many people who were actively ill, do you know how many they did locate?

Mr. SIMS. I think they did obtain samples from five or six persons. Ironically, on that day we only had one person reporting ill. I think there were some people ill, but they were taking naps and they didn't want to be disturbed, that type of thing.

When Dr. Koplan arrived I told him what I knew of the illness situation, and I suggested that he work with the YCC. Since they had the most illness and they had an adequate staff, I felt they were much

much better to assist him than our people, because our people were involved in the operation of the park, and the YCC could be directed to any type job. And I called Mr. Wiggins and informed him that Dr. Koplan was in the park, and I had asked him to work with the YCC.

On that day I attempted to call Mr. Borgman, General Superintendent, and inform him of Dr. Koplan's arrival, but Mr. Borgman was not in.

Also on that day Jeff Adams viewed the flat below the lodge through which the sewer line runs to look for sink holes or signs of any problems, and he saw no evidence of sewage leakage.

Again on that day chlorine residuals taken by Jeff Adams showed Rim restrooms to be 2 and the Munson pumphouse to be 1.5, which is quite high actually.

YCC Director Stubblefield received a written report from the Klamath County lab test. He allegedly told Jeff Adams and Jim Wiggins in a conversation in Jim Wiggins' office that the test showed coliform but no pathogens. He said Adams told him the sample probably was not taken properly. I was never notified of the results of this test. When Stubblefield showed Dr. Koplan the water report, Dr. Koplan apparently said—this is what was reported to me later—that the report was "not conclusive but made the water suspect." So either that water report did not show a serious degree of contamination, or it was not understood would be my conclusion. But Dr. Koplan agreed the water should be boiled.

On July 8, sampling and monitoring of the food service and water quality continued by the Oregon State Water Department and the United States Public Health Service personnel.

Dr. Mark Rosenberg, with the United States Public Health Service, CDC, Atlanta, Ga., arrived in the park to assist Dr. Koplan.

Jeff Adams reported to Associate Regional Director Wayne Howe that a problem still existed in the park. General Superintendent Borgman discussed the problem with Acting Regional Director Ed Kurtz.

Senator HATFIELD. Let me interrupt again and go back a moment.

I have here a copy of the report from the Klamath Basin Water and Soil Testing Laboratory for July 4, 1975, where you refer to this I believe on page 8.

Mr. SIMS. Yes.

Senator HATFIELD. And you speak of chlorine residuals taken by Jeff Adams showed Rim restrooms to be 2 and Munson pumphouse to be 1.5.

Mr. SIMS. Yes, sir.

Senator HATFIELD. And I believe you added to your written statement this was a dangerous level?

Mr. SIMS. No, sir, not a dangerous level, but higher than what you would normally have your water chlorinated.

Senator HATFIELD. The test report shows the statement "The spring water sample submitted for analysis does not conform with accepted bacteriological standards of purity for drinking water." Fecal coliforms were present in the sample." When did you become aware of this, on July 7 you say?

Mr. SIMS. No, sir, not until our Board of Inquiry meeting on about August 9.

Senator HATFIELD. Let's make sure we are talking about the same report.

Mr. SIMS. I am talking about the county report.

Senator HATFIELD. You are talking here on page 8, tell me what report are you talking about in reference to the figures?

Mr. SIMS. This would be the water sample report taken by Jack Stump on July 1.

Senator HATFIELD. And the analysis of that was made where?

Mr. SIMS. In the Klamath laboratory, I think.

Senator HATFIELD. Let me go back and quote from your statement again on page 8 at about the 10th line: "Chlorine residuals taken by Jeff Adams showed Rim restrooms to be 2 and Munson pumphouse to be 1.5."

Mr. SIMS. This is something else.

Senator HATFIELD. This is one report. Then in the next line you speak of YCC Director Stubblefield received a written report from the Klamath County lab test. Now, he reported from that particular test dated July 4?

Mr. SIMS. Yes, sir.

Senator HATFIELD. And it is this test you say you were not aware of?

Mr. SIMS. That is correct.

Senator HATFIELD. Until the review?

Mr. SIMS. That is correct.

Senator HATFIELD. In other words, Mr. Stubblefield never gave you this information?

Mr. SIMS. No, sir.

Senator HATFIELD. Mr. Stump never gave you this information?

Mr. SIMS. No, sir.

Senator HATFIELD. And they gave it to no one on your staff?

Mr. SIMS. Apparently it was discussed in a meeting in the Chief Ranger's office between Mr. Stubblefield and two friends of Wiggins and Jeff Adams. I don't know if anyone else was present or not.

Senator HATFIELD. But no one on your staff reported it to you?

Mr. SIMS. No, sir. Apparently Dr. Koplan was apparently there, at least he was aware of the report, because there is the statement that he allegedly made it was not conclusive but it made the water suspect at that time.

Senator HATFIELD. In light of the illnesses, what was your general reaction to those reports, or this first report on page 8? You say those were not the levels that would be necessarily dangerous, but did that elicit from you any kind of a question about relating water to illnesses or anything at all?

Mr. SIMS. Unfortunately, sir, I never seriously related water with the illness.

Mr. BORGMAN. May I say a word here?

Senator HATFIELD. Yes.

Mr. BORGMAN. There may be some confusion. The chlorine residual is the amount of chlorine in the water.

Senator HATFIELD. I am glad you made that clear. We are talking about chlorine residuals and not necessarily bacteria or other dangerous—but as we get into that a little bit later, that really wouldn't

tell us very much, would it, because there are certain ways in taking such samples, and I will hope to bring that out a little bit later as to how those samples were actually taken.

Mr. SIMS. All right, sir. On July 8, the sampling and monitoring of food service and water quality continued by the Oregon State Health Department and U.S. Public Health personnel, and Dr. Mark Rosenberg arrived in the part to assist Dr. Koplan.

Jeff Adams reported to Associate Regional Director Wayne Howe that a problem still existed in the park, and General Superintendent Borgman discussed the problem with Acting Regional Director Ed Kurtz.

YCC Director Stubblefield showed Dr. Rosenberg the results of the July 1 water sample, and apparently Dr. Rosenberg misinterpreted it and said, "You have been drinking pure human waste."

Senator HATFIELD. Why do you say he apparently misinterpreted it?

Mr. SIMS. This is the word I was given. I was not there. I am sure if it would have been as bad as this would seem to imply, it would have been pursued.

Senator HATFIELD. In the wording of this, are you attributing that evaluation of Dr. Rosenberg's statement to Mr. Stubblefield, or are you making that as an evaluation of Dr. Rosenberg's——

Mr. SIMS. I am not making any evaluation. I took this off of someone else's report; I was not there at the time.

Senator HATFIELD. I am trying to understand exactly who made the—let me read the top of page 9: "YCC Director Stubblefield showed Dr. Rosenberg the results of the July 1 water sample, and apparently Dr. Rosenberg misinterpreted it."

Mr. SIMS. Yes, sir.

Senator HATFIELD. Now, whose words are those?

Mr. SIMS. I am not sure. I think I took this off of Mr. Stubblefield's report that was made at a later date.

Senator HATFIELD. You're not saying Dr. Rosenberg perhaps misinterpreted?

Mr. SIMS. This was the word that I got anyway. I think where I got——

Senator HATFIELD. Well, should those be in quotes, those words? You see, as you have it here in your statement I am reading, you do not have that in quotation, so I could only draw from that, that you're making the statement that Dr. Rosenberg apparently misinterpreted the water sample of July 1, because then you follow that with a direct quotation from Dr. Rosenberg by putting in quotation marks, "You've been drinking pure human waste." And I am wondering, did Dr. Rosenberg say it or didn't he say it, according to your knowledge; and if he said it, then who said that he misinterpreted it?

Mr. SIMS. This statement was made at our Board of Inquiry meeting, was at least one place where I heard this.

Senator HATFIELD. In other words, you heard from someone else——

Mr. SIMS. It would be hearsay. I can ask Dr. Rosenberg if it is that important.

Senator HATFIELD. To be more accurate, and I am not being picky here, I am trying to understand who is saying what, should that not be

in quotation marks "apparently Dr. Rosenberg misinterpreted"? If they're not your words, they're somebody else's words?

Mr. SIMS. They're my words. Apparently at the Board of Inquiry this statement was made and the paper picked it up, and they apparently did not get the part he misinterpreted, which I heard, and they just picked up the statement.

Senator HATFIELD. Dr. Rosenberg misinterpreted the report?

Mr. SIMS. That is the wording.

Senator HATFIELD. You're making that as a statement?

Mr. SIMS. That is the way I understand it.

Senator HATFIELD. So you're making that as a statement of fact here that apparently Dr. Rosenberg misinterpreted the sample?

Mr. SIMS. Yes.

Senator HATFIELD. Of July 1?

Mr. SIMS. Yes.

Senator HATFIELD. Because you then quote Dr. Rosenberg as saying, "You've been drinking pure human waste."

What you're saying, if I understand you correctly, and I think it is a very important point, is that as I reconstruct this according to your testimony, Dr. Rosenberg had a water sample of July 1, he looked at it, and he was overheard or he made some statement to someone to the effect, "You've been drinking pure human waste based" upon that sample. Then at some later time, apparently Dr. Rosenberg recanted and said he had misinterpreted this water sample, is that correct?

Mr. SIMS. That is pretty correct. It is my understanding almost immediately he——

Senator HATFIELD. Did you hear Dr. Rosenberg say this?

Mr. SIMS. No, sir.

Senator HATFIELD. Did you talk to Dr. Rosenberg at a subsequent time when he said he had misinterpreted?

Mr. SIMS. No, sir.

Senator HATFIELD. Who said Dr. Rosenberg misinterpreted the report?

Mr. SIMS. The one place I recall hearing this was at our Board of Inquiry meeting where, as I say, this statement was made, but I don't recall who was making it.

Senator HATFIELD. In other words, someone other than Dr. Rosenberg attributes to Dr. Rosenberg he misinterpreted the water sample of July 1, is that what you're saying?

Mr. SIMS. I guess so.

Senator HATFIELD. I see. Could you tell us now, according to your own information on that July 1 water sample, was Dr. Rosenberg misinterpreting it? Could he, if he had said, "You've been drinking pure human waste," would that water sample have borne that out, or would that have refuted that statement?

Mr. SIMS. I cannot answer that, sir. I do not know. I can see it would be easy to misinterpret this report. If you weren't used to reading them, it would be easy to misunderstand it, I am sure.

Senator HATFIELD. The record should show I have been informed by staff that there has been a controversy on the method and manner of reporting between the Federal agency and the State agency that was brought out at the Board of Inquiry by the National Park Service.

Mr. SIMS. General Superintendent Borgman reported to Ed Kurtz that apparently there is an epidemic at Crater Lake with a dysentery-type flu suspected, and Oregon State Health Department investigators and Dr. Koplan, CDC, were in the park working on it.

On July 9, Bill Titus and Ed Barnes, who were with the Oregon State Health Department, were in the park checking pressure and chlorine residuals and checking water system in general. They found that the headquarters water supply was not getting chlorine. The water sample taken at Munson Springs was found to be negative. Ed Barnes said the samples probably had some coliform but they did not meet textbook definition. These samples were taken from the north box in the caisson which later was to show the least contamination of all the boxes. In other words, had they taken their sample from any of the other pipes it probably would have shown a substantial amount of coliform.

Senator HATFIELD. When you speak of other pipes, you're talking in terms of what, about seven, five or seven?

Mr. SIMS. At least about.

Senator HATFIELD. Seven pipes?

Mr. ADAMS. I believe there is five.

Senator HATFIELD. Five pipes?

Mr. SIMS. They come from the various caisson boxes into the central box.

Senator HATFIELD. And they took this from only two?

Mr. SIMS. I think they took it only from one. And it showed the best water coming from that one, otherwise it is very possible they would have picked up the bad water sample at that time.

Senator HATFIELD. Up here on page 9, again, were you aware of Mr. Borgman's report of an epidemic?

Mr. SIMS. No, sir.

Senator HATFIELD. When did you become aware of that, at the board of inquiry?

Mr. SIMS. I don't think I even became aware of it then. I think it was just recently when I got some information.

Senator HATFIELD. You mean within the last, well, since this whole matter had occurred of the park closed, park reopened, and when at that point, when the park was reopened or when the park was closed?

Mr. SIMS. Let me see what my statement was. I think I just got that very recently from the general superintendent when I was trying to compile this report.

Senator HATFIELD. Mr. Borgman never reported that to you?

Mr. SIMS. No, sir.

Senator HATFIELD. So each day that was not reported we were, in effect, possibly exposing almost 10,000 people a day? Is that about the park visitation?

Mr. SIMS. No; that would be high. Four or five thousand during that time of the year, which was the busiest time of the season.

Senator HATFIELD. And that was a 4-day delay, which means we were in the neighborhood of 20,000 to 25,000 people?

Mr. SIMS. Very possibly.

Mr. BORGMAN. May I make a comment here, Senator?

Senator HATFIELD. Yes.

Mr. BORGMAN. I am not sure Mr. Sims is following your line of questioning here precisely. In my understanding, we were all aware at

this time that we did have a problem, because the doctors were there, and Mr. Sims and I both were aware they were working on a problem making a survey of sick people, and this was an epidemic if that is the correct word for it.

Senator HATFIELD. Do you agree with the superintendent's statement, though, at this point, Mr. Borgman, you had made this statement to Mr. Kurtz that apparently there is an epidemic at Crater Lake with a dysentery-type flu suspected and that OSHD investigators and Dr. Koplan, CDC, were in the park working on it?

Mr. BORGMAN. Well, my report to Mr. Kurtz was on information Mr. Sims gave to me.

Senator HATFIELD. Pardon?

Mr. BORGMAN. It was on information Mr. Sims gave to me. So I would disagree with his statement. I think we were both aware of the epidemic at this time.

Senator HATFIELD. Had you come to a conclusion, Mr. Sims, independent of what Mr. Borgman may have reported to Mr. Kurtz? I mean what was your own assessment of the situation at this particular time?

Mr. SIMS. I was aware that there was a problem, I just don't recall ever using the word "epidemic" or "dysentery-type flu."

Senator HATFIELD. If you had been aware or you had made an assessment that it was an epidemic, what would you have done?

Mr. SIMS. At that time, I felt that just about everything that could be done was being done with your Public Health doctors in the park working on it actively, and I just didn't know what else could be done.

Senator HATFIELD. Would you have considered closing the park as a part of a precautionary measure?

Mr. SIMS. If I had had some kind of knowledge that this was being passed on to other than our own people, I think I certainly would have considered some such measure.

Senator HATFIELD. You were attributing this outbreak of illness then to outside forces?

Mr. SIMS. No, sir. I just—what I am saying, as far as I knew it was being passed from person to person was the way it was being passed in the park, and it was just a local thing involving our personnel.

Senator HATFIELD. But if it were being passed from person to person, it was obvious there was some media or vehicle of passing this? It wasn't a catching disease, was it?

Mr. SIMS. No; I don't think so.

Senator HATFIELD. So therefore there had to be some other vehicle through which this passed from person to person, so there were many people being exposed to this, weren't there, through the visitation to the park program?

Mr. SIMS. I don't know if there were very many actually being exposed to it under those conditions.

Senator HATFIELD. Well, what were those conditions?

Mr. SIMS. Well, the only way people were being exposed actively is if they came in contact with an employee who was actively ill, and in very close proximity to them.

Senator HATFIELD. You were aware at this point, though, if I am not mistaken, Mr. Sims, there were concessionaire employees who were ill as well?

Mr. SIMS. I was never aware of any large number of concession employees ill.

Senator HATFIELD. A large number, but were you aware that any concessionaire employees were ill at the same time you were aware, according to your statement, that YCC volunteers, at one point over 50 percent of them, were ill, your own personnel were ill, your own family members were ill with the flu related, some flu related problem? Were you or were you not at this time then aware that there were employees of the concessionaire who were also ill?

Mr. SIMS. Not in any numbers, though.

Senator HATFIELD. One, two, three?

Mr. SIMS. Something like that, just very——

Senator HATFIELD. Very few?

Mr. SIMS. Yes; very minor, yes.

Senator HATFIELD. But you see, put in the context of the whole park, even though there were only a few concessionaire employees, you knew there were the others, the YCC personnel, members of your own family, staff, et cetera, did it not occur to you there were then dangers to the public coming into that situation whether or not that they were being exposed?

Mr. SIMS. I didn't really consider any particular danger to the public. And at this time, we had the two Public Health doctors in the park, and it was out of my hands. I felt we had the experts working on it.

Senator HATFIELD. Did they inform you as to any possibility of the public being exposed to the flu in the park? You had two Public Service doctors, Public Health doctors in the park. You had had these reports from what, you had a team of four from the Oregon State——

Mr. SIMS. At times, yes.

Senator HATFIELD. You had various other individuals who were professional or semiprofessional; did no one at all at any time indicate to you that there might be a problem of the public being exposed to——

Mr. SIMS. I do not recall being so informed.

Senator HATFIELD. Not one of these?

Mr. SIMS. No, sir.

Senator HATFIELD. When were you first informed that the public might be endangered?

Mr. SIMS. I do not recall exactly. But we had a discussion, I believe, late on the 9th where the doctors proposed the possibility of closing the park at this time.

Senator HATFIELD. This was Dr. Googins?

Mr. SIMS. No; this was Dr. Rosenberg and Dr. Koplan.

Senator HATFIELD. Dr. Rosenberg and Dr. Koplan?

Mr. SIMS. Yes. They still didn't know what was causing the illness, but they discussed the possibility at that time.

Senator HATFIELD. Are you aware of Dr. Googins making a recommendation on the previous day to Dr. Rosenberg and Dr. Koplan that the park might best be closed?

Mr. SIMS. No, sir, I was not aware of that.

Senator HATFIELD. But the first date you had any indication from the professional people involved—namely, Dr. Koplan and Dr. Rosenberg, as you say on page 9—was on July 9?

Mr. SIMS. Yes, sir.

Senator HATFIELD. OK. I guess we are down now to July 10.

Mr. SIMS. I don't think I quite finished July 9.

Senator HATFIELD. Oh, we are still on July 9. All right.

Mr. SIMS. I will pick it up here.

Gena Wright and Ed Bussen, KCHD, were in the park helping CDC investigators, and in the late afternoon Dr. Rosenberg and Dr. Koplan discussed the possibility of closing the park with me.

There was a roundrobin telephone discussion between Ernie Borgman, myself, the USPHS Drs. Koplan and Rosenberg and Mr. Schock—I did not myself talk to Mr. Schock—of the National Park Service in Washington, and Acting Regional Director Ed Kurtz regarding recommendations to close the park.

On July 10, Dr. Koplan——

Senator HATFIELD. Did you make the recommendation to your superiors at that point?

Mr. SIMS. I did not make the recommendation. I merely passed on the recommendation of the doctors, as I recall.

Senator HATFIELD. Did they ask you for your own personal opinion or recommendation?

Mr. SIMS. No; I don't think they did. I don't recall that they did.

Senator HATFIELD. Mr. Sims, as a park superintendent, you operate, of course, within a chain of command?

Mr. SIMS. Yes, sir.

Senator HATFIELD. And act in an hierarchy system. But you do also have certain authority to act on your own judgment on matters within any park for which you are held responsible, is that correct?

Mr. SIMS. Generally on matters of lesser importance, day-to-day operation.

Senator HATFIELD. Under no circumstance would you be authorized to close the park without approval from superiors?

Mr. SIMS. Probably not, unless there was some type of a dire emergency, I was absolutely certain it had to be closed. If it was a questionable type decision, I would not be able to make the decision.

Senator HATFIELD. You didn't feel that strongly about this situation at this time?

Mr. SIMS. No, sir, I was absolutely certain I couldn't make the decision on the basis of what information I had at that time.

Senator HATFIELD. What was the reaction of your superiors in this roundrobin?

Mr. SIMS. I do not recall.

Senator HATFIELD. Pardon?

Mr. SIMS. I do not recall.

Senator HATFIELD. Before you said goodby on this roundrobin discussion—you said here, "Roundrobin telephone discussion between Ernie Borgman, Klamath Falls; myself; USPHS Drs. Koplan and Rosenberg; Mr. Schock, NPS, Washington; and Acting Regional Director Ed Kurtz."

Mr. SIMS. I did not talk to Ed Kurtz. We weren't all on the phone at the same time; this was a matter of me calling General Superintendent Borgman.

Senator HATFIELD. This was not a conference call?

Mr. SIMS. No, sir.

Senator HATFIELD. When you say this discussion was held with Acting Director Ed Kurtz regarding recommendations to close the park, what was his reaction on that recommendation that you transmitted, not from yourself, as a recommendation as I understand it, but you transmitted from the doctors to Mr. Kurtz?

Mr. SIMS. I did not get a reply myself. I did not talk to Ed Kurtz myself; Mr. Borgman did, so I did not.

Senator HATFIELD. So you didn't talk to your superior directly?

Mr. SIMS. I talked to my superior, Mr. Borgman, and he in turn talked to his superior.

Senator HATFIELD. I see. Thank you.

Mr. SIMS. Then on July 10, Dr. Koplan and Dr. Rosenberg requested authority from Atlanta to close the park immediately. Their request was denied due to lack of evidence produced by the doctors to justify closure. The decision was relayed to Ernie Borgman by Mr. Schock in the afternoon.

Senator HATFIELD. If I look at the chart of organization correctly, Dr. Koplan and Dr. Rosenberg are basically staff officers rather than line officers, if we were to use an analogy to the military, is that correct?

Mr. SIMS. I would think that is correct, sir.

Senator HATFIELD. You did not at this time then, following your conversation with Mr. Borgman, you did not know what the line officer, who in that case would be Mr. Kurtz, said concerning the recommendation on closing the park?

Mr. SIMS. No, sir.

Senator HATFIELD. You had no knowledge whether they were to close it or not close it?

Mr. SIMS. That is right.

Senator HATFIELD. Mr. Borgman did not report back to you any kind of a decision that might have been made in the line on that recommendation?

Mr. SIMS. No, sir, except only we didn't hear to close it so we had to more or less assume not to.

Senator HATFIELD. Then I understand by your statement on July 10 Dr. Koplan and Dr. Rosenberg, aware this recommendation of theirs had been transmitted up the line, made their recommendation to their superior in Atlanta?

Mr. SIMS. I think that is correct, sir.

Senator HATFIELD. Which would be the staff function of the medical, if I were to draw the analogy again? In other words, what I am trying to get at, the line authority could close the park, or the staff authority, acting on the recommendation of the doctors, could close the park, is that correct?

Mr. SIMS. I think so, it could have been closed on their recommendation. Had they had enough information to close it, they could come to our people and say these are the facts, the park needs to be closed. Or if we had the facts necessary, the decision was made in our ranks, the park could have been closed. I think I would agree with what you are saying.

Senator HATFIELD. In retrospect how do you react at this particular moment and instant on not having a decision of whether to close or

not to close the park when you had been given the information and recommended to close the park to your superiors, then you were aware those same people, the two doctors had recommended to their superiors a second way to close the park, so in effect they were saying get this park closed one way or the other, how do you see this in retrospect?

Mr. SIMS. I find it very difficult to report, sir.

Senator HATFIELD. Did you find it difficult at the time to adjust in your own thinking this situation where the two doctors felt so strongly about this they were seeking two channels of closing the park? Did that bring into your mind the possibility this may be serious, I should close the park on an emergency basis and take the consequences, or call Mr. Borgman back and say, "Hey, what is the answer on this?"

Mr. SIMS. I felt it was completely out of my hands at this time.

Senator HATFIELD. Did you call Mr. Borgman back and say, "What is the result?"

Mr. SIMS. No, I did not.

Senator HATFIELD. You had material and information the park should be closed, you passed that up the chain of command through Mr. Borgman, and you had no answer on that?

Mr. SIMS. I don't recall.

Senator HATFIELD. Then you're aware the doctors made that request through their channels and that was refused?

Mr. SIMS. That was my understanding, yes.

Senator HATFIELD. And you did not go back to Mr. Borgman to find out whether the superiors in that chain had said yes or nay?

Mr. SIMS. No, sir.

Senator HATFIELD. And not having heard from Mr. Borgman, you had determined that they had decided probably not to close the park, is that what——

Mr. SIMS. Yes, sir.

Senator HATFIELD. All right.

Mr. SIMS. Now we are down on July 10, aren't we? I don't remember just how far we got.

The request was denied due to lack of evidence by the doctors to justify closure. Decision relayed to Mr. Borgman by Schock in afternoon. General Superintendent Borgman relayed information to Pacific Northwest Region.

Notices were passed out to persons entering the park advising visitors of illness—and I know absolutely I feel this was done on the 9th. There was some confusion, perhaps someone here can clear that up.

Senator HATFIELD. Who made that decision to put these notices out?

Mr. SIMS. I believe Dr. Koplan came up with that idea.

Senator HATFIELD. That was after he had been refused permission to close the park by his superiors?

Mr. SIMS. I cannot say if it was before or after. But notices were passed out in the park advising visitors of illness and suggesting precautions to be taken, which was basically to boil water and put iodine tablets in the water. And like I say, I am not certain whether we started passing these out during the 9th or on the 10th, but I think the notice was dated on the 10th, so I cannot say.

Also on this date Ed Barnes dug out chlorine line at Munson Springs and found that direct flow through tank allowed water to

headquarters line to bypass chlorination. Chlorinator was attached directly to headquarters line in the afternoon.

At approximately 3 p.m. Dr. Rosenberg made the statement—and I wasn't there again, and maybe it isn't significant, but Jeff Adams, Dr. Koplan, and Ernie Borgman were there—the statement was made it did not appear to be in the water, which perhaps was the situation even at that time, it hadn't been determined the water was the cause of the illness.

Food services at the Rim were inspected by Ed Barnes, OSHD, and Dr. Koplan and Dr. Rosenberg at 3:30 to 5 p.m.

Senator HATFIELD. Were these signs posted anywhere around the lodge, this type of notice that was handed to the visitors as they came in the park?

Mr. SIMS. My understanding at the time was this notice would be handed to all visitors as they entered the park, and they would be posted in the park on our bulletin boards.

Senator HATFIELD. But were they posted anywhere else?

Mr. SIMS. Apparently this notice was also posted in some of the concession buildings, I think in the cafeteria, I am not sure of any others.

Senator HATFIELD. How long were they up, do you know?

Mr. SIMS. I do not know.

Senator HATFIELD. How long were they handed out at the gates?

Mr. SIMS. Well, they were handed out during the day of the 10th. May I ask Mr. Wiggins if he knows? Do you know if they were handed out during the 9th?

Mr. WIGGINS. According to Incident Report 203 signed by Park Commissioner Jonas McDonough they were handed out on Wednesday morning, July 9, at apparently 10:30.

Mr. SIMS. So they should have been handed out to all visitors as they entered the park on the 9th and the 10th.

Senator HATFIELD. And for how long a period after that started?

Mr. SIMS. Well, the discovery was made the night of the 10th, so it was discontinued. The park was closed on the 11th.

Senator HATFIELD. But it was throughout the day?

Mr. WIGGINS. Yes.

Mr. SIMS. Yes.

Senator HATFIELD. And who has jurisdiction of the bulletin boards? Are those park property?

Mr. SIMS. Those bulletin boards would be; yes.

Senator HATFIELD. And are there some in the lodge?

Mr. SIMS. I think they had a type of bulletin board inside the cafeteria, it is a soft composition board, I believe notices can be tacked on.

Senator HATFIELD. Is that the concessionaire's bulletin board?

Mr. SIMS. That would be the concessionaire's.

Senator HATFIELD. Not the park service?

Mr. SIMS. Not the ones inside.

Senator HATFIELD. Were they posted on the concessionaire's bulletin board?

Mr. SIMS. I don't know exactly where they were posted in regard to the concession.

Senator HATFIELD. The restrooms?

Mr. SIMS. I doubt it, but I don't know.

Mr. Larry Echols, acting for Associate Regional Director Wayne Howe, called Mr. Borgman to discuss the Crater Lake problem. Mr. Echols also contacted the office of John Cook, Associate Director, Park System Management, NPS, Washington, D.C. Joe Schock, National Park Service, called Echols to discuss a partial closing of food services. Acting Regional Director Ed Kurtz and John Cook discussed the situation at Crater Lake. Epidemiological Investigation Service contacted CDC in Atlanta to request advice on closing the park. CDC officials said the evidence was not conclusive enough to establish the source of infection and asked for another 24 hours to evaluate data. Ed Kurtz contacted Regional Director John Rutter at Olympic National Park to brief him on the situation at Crater Lake. Joe Schock, National Park Service, reported a conversation with Dr. Gene Gangarosa, CDC, who told him, "Based on epidemiological data available it did not appear that either water or food was the vehicle, but probably caused by person-to-person contact." Mr. Schock also reported that, "discussions on the afternoon of the 10th focused on the possibility of closing the concession operation because so many of the employees were ill." It was decided to wait until July 11.

Somewhere around 6:30 p.m., Jeff Adams discovered sewage flowing from around the manhole cover below the lodge. Approximately 7:30 p.m., Jeff Adams reported his discovery to me. I immediately informed Dr. Koplan and Dr. Rosenberg. Jeff Adams, Dr. Koplan, Dr. Rosenberg, Ed Barnes, and Bill Titus departed for the plugged sewer. At approximately 8:10 p.m. fluorescein dye was dumped into the manhole above the overflow. The dye appeared at Munson Springs at 8:50 p.m. EPA was notified of the dye test. By 10 p.m. the rock which plugged the sewer pipe had been removed.

Upon learning of Jeff Adams' discovery, I got a seasonal ranger who began going house to house informing residents of the situation. I went to my office and called all employees who had telephones and informed them of the water contamination. I then began to go door to door in Sleepy Hollow informing everyone who was home of the situation and arranging for those who were not home to be notified. I then went to Steel Circle and notified the rest of the residents of the discovery. At approximately 8:30 p.m. I called Ernie Borgman and informed him of the situation. I later went back to headquarters to meet with Dr. Koplan and Dr. Rosenberg. They advised me of a possible hepatitis danger. The doctors made up a notice which was delivered to all park employees and the concessionaire around 12 o'clock, done by the YCC people.

Then on July 11, this was still at night, approximately 12:30 a.m., Mr. Borgman was in telephone contact with the park, and after discussion with the concessionaire and U.S. Public Health Service personnel, apparently a decision was made to close the park. I was told this later.

Senator HATFIELD. When you say Mr. Borgman was in telephone contact with the park, who is the park?

Mr. SIMS. I had called him at 8:30 and 11:30, then I think after that Jeff Adams called him, then after that he was in contact with Mr. Peyton, the concessionaire.

Senator HATFIELD. He had not called you?

Mr. SIMS. I had already talked to him twice by telephone prior to this 12:30 call.

Senator HATFIELD. At that point did he tell you a decision had been made to close the park?

Mr. SIMS. No, sir. There wasn't any question in my mind, though, the park would be closed when this was known.

Senator HATFIELD. When a decision of this kind was made.

First of all, Mr. Borgman was physically where at this time?

Mr. SIMS. He was in Klamath Falls.

Senator HATFIELD. And you were at the park?

Mr. SIMS. Yes, sir.

Senator HATFIELD. The decision was made by Mr. Borgman to close the park?

Mr. SIMS. Perhaps he can clarify.

Senator HATFIELD. But you had not made the decision?

Mr. SIMS. No, sir.

Senator HATFIELD. After that decision was made somewhere along the line, who would execute that decision normally?

Mr. SIMS. I think normally the decision would be made at our Regional Director's level.

Senator HATFIELD. So that is physically removed from the park. How do they get that decision implemented once it is made?

Mr. SIMS. It has to be relayed back down to us to implement it.

Senator HATFIELD. Who is, "us"?

Mr. SIMS. It would generally be me.

Senator HATFIELD. As Superintendent?

Mr. SIMS. But this was not done.

Senator HATFIELD. Not at this time? This was 12:30 in the morning. Who was it relayed to?

Mr. SIMS. I think it was relayed to the concessionaire.

Senator HATFIELD. But it was more than the concession, it was a decision to close the park?

Mr. SIMS. I think so. Mr. Borgman can probably——

Senator HATFIELD. When did you first learn the park was to be closed?

Mr. SIMS. I learned that early the next morning.

Senator HATFIELD. We are now talking about 12:30 a.m.?

Mr. SIMS. It was later than that.

Senator HATFIELD. It was after midnight on July 11?

Mr. SIMS. Well, it was more like 7:30 the following morning we were in telephone contact and really had a definite answer.

Senator HATFIELD And who told you about it?

Mr. SIMS. Mr. Borgman is the one that made the telephone call to the regional office to verify it.

Senator HATFIELD. Who told you the park was going to be closed? Not how did Mr. Borgman get the information, but how did you get the information a decision had been made somewhere by someone that the park was to be closed? How did you first learn that, and from whom?

Mr. SIMS. It is rather indefinite, but Dr. Koplan, Dr. Rosenberg, Mr. Borgman, and myself met early, just briefly discussed it. And I don't think there was any question the park had to be closed. And Mr. Borgman proceeded to call the regional office.

Senator HATFIELD. When did you have this conference with the poeple you just enumerated?

Mr. SIMS. This was the morning of the 11th, I think about 7:15 in the morning.

Senator HATFIELD. On the telephone?

Mr. SIMS. No.

Senator HATFIELD. Mr. Borgman had come to the park?

Mr. SIMS. Mr. Borgman had come to the park; yes, sir.

Senator HATFIELD. You were at the park headquarters?

Mr. SIMS. Yes, sir.

Senator HATFIELD. See, what kind of confuses me a little bit is up here in the middle of the page you say at 12:30 a.m. on July 11 Mr. Borgman was in telephone contact with the park. But that was not with you?

Mr. SIMS. No, sir.

Senator HATFIELD [reading]: "After discussion with concessionaire and USPHS personnel, decision was made to close the park." You see, I read that as having been made somewhere in the 12:30 a.m. Then you drop down and say, "At 7:15 a.m., Mr. Borgman, Dr. Koplan, Dr. Rosenberg, and I met briefly at park headquarters to discuss closing the park. At 7:45 a.m., Mr. Borgman called Ed Kurtz and received permission to close the park. Park was closed at 8:15 a.m." You're telling me then that the decision was made in the minds of Mr. Borgman and others at 12:30 a.m., but permission to do it was not obtained until 7:45 a.m.?

Mr. SIMS. I think that is probably right.

Senator HATFIELD. Is that right?

Mr. SIMS. Yes, sir.

Senator HATFIELD. You were in the presence of these people when these calls were made between 7:15 and 7:45 to get permission, so you sort of learned it in that process?

Mr. SIMS. Yes, sir.

Senator HATFIELD. There was no direct communication to you?

Mr. SIMS. No, sir.

Senator HATFIELD. You say the park closed at 8:15, what physically was done?

Mr. SIMS. That was physically closing at the entrance stations so vehicles could not enter the park.

Senator HATFIELD. How was that implemented?

Mr. SIMS. The word was given to Mr. Wiggins.

Senator HATFIELD. By whom?

Mr. SIMS. By me.

Senator HATFIELD. You called and executed that decision at that moment, is that correct?

Mr. SIMS. As soon as we had that verification; yes, I gave him the word to close the entrance stations and not permit anyone to enter.

Senator HATFIELD. All right, the last page.

Mr. SIMS. Notices were handed out to departing visitors informing them of the contaminated water and advising them to get gamma globulin injections.

Senator HATFIELD. About how many were there?

Mr. SIMS. Maybe Mr. Wiggins can answer that? I don't know.

Senator HATFIELD. A guesstimate.

Mr. SIMS. Probably not very many. It would just have been the people staying overnight in the lodge, which might have been, a guesstimate, 250 to 300 people in the park.

Senator HATFIELD. YCC people?

Mr. SIMS. They left a little later in the day, I don't know exactly what time or at what intervals. I don't think they all left at the same time, but they did leave.

Dye was put into the sewage system to check for leaks. No leaks were found.

Lime and chlorine were spread on raw sewage around the leaking manhole. Joint CDC–NPS press release telling of park closing and urging all visitors who had been in the park to get gamma globulin injections. General meeting with Mr. Borgman, Dr. Koplan, Dr. Rosenberg, Ralph Peyton, and myself at 10:30 a.m. to discuss measures which would have to be taken.

At 12:30 p.m. a National Guard helicopter arrived with State officials from Portland to administer gamma globulin and to take blood samples of employees.

I was not aware that it was possible for raw sewage to enter the water system, and the possibility was never mentioned to me by anyone else. No one regrets this incident that happened at Crater Lake more than I do. With hindsight it is easy to see where mistakes were made, but to my knowledge everyone acted at the time to the best of his ability. My hopes now are that some good will comes from this experience. I hope that any sewer and water system now constructed would be so designed that it would be impossible for the sewage to enter the water system. I also hope that the best equipment be implemented to chlorinate and safeguard water supplies. I would hope for better training for those people who work with water and sewer systems. Last, I would hope for a speedy, effective method of testing water quality.

Senator HATFIELD. Mr. Sims, I appreciate very much your statement. I do have a few now concluding and general questions.

I would like to read into the record at this point the statement that was given to all the visitors on Thursday evening, July 10. It is entitled: "To All Visitors":

> Evidence the facilities at Crater Lake National Park has been found to be contaminated with sewage. The water is not fit to drink or use for any purpose other than flushing toilets. It is imperative that the following precautions be taken immediately:
>
> 1. Do you drink, bathe, wash clothes, brush teeth or use the water from the park system for any purpose other than flushing toilets.
>
> 2. Normal disinfection precautions such as boiling, chlorine, iodine, et cetera, are not effective and should not be relied upon.
>
> Thank you
>
> RICHARD H. SIMS,
> *Superintendent, Crater Lake National Park.*

These, I want to make sure now we have clear for the record, were handed to all incoming visitors as of Thursday night.

Mr. SIMS. No, sir. These were departing visitors on the morning of July 11 who were in the park overnight and were leaving the next day, that notice.

Senator HATFIELD. Would you like to consult with your colleagues, because I don't think you would hand this to a departing visitor about washing clothes and brushing teeth.

Mr. SIMS. This must be the notice that was posted. After it was found that night this notice was posted. This was a notice that was handed around to all the residents in the park that night, it was taken around the night of the 10th.

Senator HATFIELD. Were the gates closed at this time to any new incoming visitors?

Mr. SIMS. I don't think they were closed, but there was virtually no one entering the park at this hour.

Senator HATFIELD. I presume there was a supply so if there were any incoming visitors——

Mr. SIMS. I don't know if that was thought of at that time.

Senator HATFIELD. But this was distributed to all people in the park at that time, to your people, YCC personnel, visitors and everyone?

Mr. SIMS. I don't know as it was distributed to visitors. It was given to the concessionaire, and I don't know how he took it from there. It was so late at night that the visitors, I think they were all asleep and I don't think they would be using water.

Senator HATFIELD. Did you give instructions on how this was to be taken care of?

Mr. SIMS. No.

Senator HATFIELD. You didn't pass the word out to your own staff?

Mr. SIMS. I didn't really have any staff available at that time. This was around midnight or so when this was being done.

Senator HATFIELD. But you considered this pretty serious at that time; did you not? Did the doctors word this for you?

Mr. SIMS. Yes, sir.

Senator HATFIELD. And yet the park was not closed until——

Mr. SIMS. In the morning.

Senator HATFIELD. The very next morning?

Mr. SIMS. Yes; early the next morning.

Senator HATFIELD. Then you had, I believe, another statement which should be read into the record at this point.

To all visitors.

Over the past several weeks there has been an outbreak of gastroenteritis at Crater Lake National Park. This illness is characterized by diarrhea, vomiting, fever, and chills. It can last anywhere from a few hours to several days.

It is unclear how this illness is contracted or how it is spread.

This was passed out, as I understand, all day to incoming visitors?

Mr. SIMS. Yes, sir, on the 9th and the 10th.

Senator HATFIELD. On the 9th and the 10th?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Do you consider there is any great distinction between the instructions you passed out to all incoming visitors on July 9, as represented by that notice, and the instructions given to all the in-park visitors on the night of July 10?

Mr. SIMS. Yes, sir.

Senator HATFIELD. They are basically the same instructions, aren't they?

Mr. SIMS. No, sir, I don't interpret them that way.

Senator HATFIELD. You consider the one on July 10 a more definitive and perhaps serious situation than you did the one when you issued the statement on July 9?

Mr. SIMS. Yes, sir.

Senator HATFIELD. And the doctors in both instances were the authors of the wording?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Now let me go to the question of the concessionaire for a few moments, as to your knowledge of any of these questions. And if you do not have knowledge, that is fine, but I would like to know what you understand.

It is reported that on July 8 the concessionaire posted a notice to his employees announcing there was no problem with the food and water. July 8, that was just the day before you issued this first notice. I have a copy of that notice that was posted. For the record I shall read it. It is addressed:

To: Employees of Crater Lake Lodge.
Date: July 7, 1975.
Subject: Flu Bug.

The last ten days have not been pleasant because of the flu. Crater Lake Lodge and the National Park Service have been working intensely to discover the problem. From talking to doctors throughout the state, this flu bug is widespread throughout the Northwest and probably brought into Crater Lake by tours. It has been determined it is not a bacteria and is not caused by the food or water, but it is an airborne virus. According to the doctors it is a new strain that they have not isolated and do not have any new cure for.

When first afflicted take at least 4 ozs. of Kaopectate and follow with at least 2 ozs. every two hours until you feel you are healthy, then continue with 1 oz. every four hours for two days. Sip 7-Up, Bubble-Up or some other sweet carbonated drink in small sips throughout the period to help smoothe the stomach. Eat lightly. Avoid starches and greasy foods, and consume all of the liquids you can handle.

Do not hesitate to call the office or house mother for assistance for food.

(S) CRATER LAKE LODGE, INC.

Did you authorize such a notice to be posted by the concessionaire, Mr. Sims?

Mr. SIMS. No, sir.

Senator HATFIELD. Were you aware of this notice?

Mr. SIMS. No, sir.

Senator HATFIELD. When did you become aware of this notice?

Mr. SIMS. I can't say that I ever became aware of the complete notice.

Senator HATFIELD. Is this the first time——

Mr. SIMS. I think this is the first time I have ever heard it.

Senator HATFIELD. Is this the first time you have heard this?

Mr. SIMS. As near as I can recall. I don't recall if it came up at the board of inquiry or something like that. Prior to that time I had no knowledge.

Senator HATFIELD. Mr. Sims, what are your responsibilities to the employees of the concessionaire at Crater Lake National Park? In your job description and your instructions and other such relationships you have to your organization, your superiors, what has been designated or what are the responsibilities you have to these employees of the concessionaire?

Mr. SIMS. I really can't give you a specific answer. It probably would be the same as any other person. Normally the concessionaire's employees are the responsibility of the concessionaire.

Senator HATFIELD. Do you have a superintendent's manual or some printed outline of your duties and responsibilities as a park superintendent?

Mr. SIMS. I have never seen anything spelled out, no, what our responsibilities to the concessionaire's employees, if there are any such responsibilities.

Senator HATFIELD. Would you briefly trace for us your career in the Service, where you began your work and what your titles were?

Mr. SIMS. Certainly. I began in late April 1954, as a seasonal ranger.

Senator HATFIELD. As a ranger?

Mr. SIMS. I was a seasonal park ranger.

Senator HATFIELD. Is this sort of the beginning of the road?

Mr. SIMS. That is usually the way. There are other ways. Some people come in permanent.

Senator HATFIELD. I am speaking of you. Your first step was a ranger?

Mr. SIMS. Yes, sir, seasonal ranger. I spent eight summers in that capacity. My other occupation was a schoolteacher, this was a summer job. In June of 1962 I went to the Badlands of South Dakota as a permanent ranger, and I spent six summers.

Senator HATFIELD. You went as a permanent ranger. Did you go into some kind of inservice training for that position?

Mr. SIMS. After I had received that position I attended a session in Grand Canyon, which is about a 3-month session, which is about their normal training for park rangers.

Senator HATFIELD. The next step?

Mr. SIMS. The next step was district ranger at Shenandoah National Park.

Senator HATFIELD. Virginia?

Mr. SIMS. This was in March of 1968.

Senator HATFIELD. Did you go then to another similar session of training as you had before?

Mr. SIMS. No, sir.

Senator HATFIELD. You went directly into that position?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Did the outgoing district ranger instruct you?

Mr. SIMS. No, sir, he was gone when I arrived.

Senator HATFIELD. You came into the office and there it was?

Mr. SIMS. Yes, sir.

Senator HATFIELD. The next step?

Mr. SIMS. Was coming back to Oregon Caves National Monument in March of 1971.

Senator HATFIELD. And your title there was?

Mr. SIMS. At first it was Administrative Assistant.

Senator HATFIELD. And later?

Mr. SIMS. Later it was changed to Superintendent.

Senator HATFIELD. Superintendent of the Oregon Caves National Monument?

Mr. SIMS. That is correct, sir.

Senator HATFIELD. Did you go to any training school or was there an instructional program on the duties and responsibilities?

Mr. SIMS. Not just a special school for just that particular office, no. I had attended different types of sessions that pertained to different facets of the operation.

Senator HATFIELD. Did the outgoing superintendent instruct you?

Mr. SIMS. No, sir.

Senator HATFIELD. He was gone?

Mr. SIMS. He was gone when I arrived.

Senator HATFIELD. And the next step?

Mr. SIMS. Crater Lake National Park in October 1973.

Senator HATFIELD. And where was your predecessor when you arrived on the scene?

Mr. SIMS. He was in North Dakota.

Senator HATFIELD. He was gone?

Mr. SIMS. Yes, sir.

Senator HATFIELD. Did he leave instructions on any unfinished business for you——

Mr. SIMS. He left no instructions.

Senator HATFIELD. Did you receive any instructions from your immediate superior, or any person or group in the line, on the conduct and responsibilities of the Superintendent of Crater Lake National Park?

Mr. SIMS. No, sir.

Senator HATFIELD. Does the park have any manual that outlines the duties and responsibilities of the park superintendent for Crater Lake?

Mr. SIMS. You have a job description.

Senator HATFIELD. In that job description were any or these sessions you had in your career, did they outline the point of any relationship to the concessionaire in any of the parks or monuments or other places under the jurisdiction of the National Parks?

Mr. SIMS. Not that I am aware.

Senator HATFIELD. You are not aware of any time in your career you understood you had any specific responsibilities to the concessionaire and/or to his employees during the season or any other time?

Mr. SIMS. Not there there were any special responsibilities. You have the same responsibility toward them as you would anyone else.

Senator HATFIELD. You were just to keep things running smoothly?

Mr. SIMS. I would say so, sir.

Senator HATFIELD. Do you make any inspections of the facilities in any of these monuments or parks to see there is a certain standard or quality of service? For instance, I have transmitted Park Service complaints I have had from customers about things they have experienced in national parks. I have assumed when I received the answer back from the National Park Service they had reported it back down the chain and back to me. Some of those complaints involved concessionaires. Did you ever complain to the concessionaire or his office on the quality? I am not talking about this instance, I am talking about the general relationship you might have with the concessionaire.

Mr. SIMS. I have had very few instances where I have had to.

Senator HATFIELD. Pardon me?

Mr. SIMS. I have had very few instances where I have had this happen that I can recall right off.

Senator HATFIELD. Did you ever have a complaint about the concessionaire or the facility?

Mr. SIMS. I don't recall of any this year.

Senator HATFIELD. At no time did you ever call Mr. Peyton on the phone and say I have had a complaint I would like to discuss with you?

Mr. SIMS. I think we have on very few occasions.

Senator HATFIELD. I am not implying you would have had complaints, but I am asking if you did have?

Mr. SIMS. If we had complaints, that is what we would normally do.

Senator HATFIELD. How often did you visit the lodge or the concessions in your normal duties and responsibilities?

Mr. SIMS. Not very often during the summertime.

Senator HATFIELD. First of all, how many months is the lodge open?

Mr. SIMS. The lodge is normally open from June 13 to about September 13.

Senator HATFIELD. In that span of time what would be the average number of visits, by design or by accident or whatever it might be? How many times would you have been in that lodge or had any contact with Mr. Peyton or anyone in that lodge, once a week, once a day?

Mr. SIMS. I didn't get to the lodge very often. This summer I had been up on two or three occasions, mainly to see our program presentation that was going on at the lodge. We give a program up there every night, and I have gone up on an occasion to view that.

Senator HATFIELD. Did you have any reports or comments through your personnel who were there every night about the lodge or any employees of the concessionaire? During this time of the serious outbreak did you contact Mr. Peyton and alert him of this problem, or what was your relationship with Mr. Peyton during all this period of the doctors and samples and tests?

Mr. SIMS. Most of the communication was between the doctors and the lodge. They were having quite a lot of communication. I had communication on the 4th when we had an inspection. I had communication with Mr. Peyton at that time.

Senator HATFIELD. When was the first date you talked to Mr. Peyton about this problem personally?

Mr. SIMS. I don't know the exact date. It must have been late June that I did see him.

Senator HATFIELD. What did you talk to him about?

Mr. SIMS. At that time the problem still wasn't very evident, and I don't remember really much discussion, at least involving this problem.

Senator HATFIELD. On July 1 you indicate that you received a report from a professor of Eastern Oregon State College that his daughter, a concession employee, had reported evidently that there had been some possible food poisoning problem at Rim Village, and that they were having a problem with the boss.

Mr. SIMS. I was not aware of this at the time.

Senator HATFIELD. Well, what did you do with this information in this report?

Mr. SIMS. I wasn't even aware of this report until just recently.

Senator HATFIELD. In other words, it was never——

Mr. SIMS. It was never called to my attention. It never came to me or called to my attention.

Senator HATFIELD. And you only became aware of this during the Board of Inquiry?

Mr. SIMS. Recently when I tried to compile this report.

Senator HATFIELD. What are your normal periods of inspecting the adequacy of the sewage lines?

Mr. SIMS. That is normally taken care of by the maintenance division, and my understanding is at least once a year the sewage line is inspected.

Senator HATFIELD. Once a year?

Mr. SIMS. Yes, normally in the fall of the year it is inspected to see it is clear.

Senator HATFIELD. In the fall at the end of the season?

Mr. SIMS. I think that is the usual time, late summer or fall, toward the end of the visitor season.

Senator HATFIELD. Is it then again inspected at the beginning or prior to the opening of the season?

Mr. SIMS. No, because it is under so much snow it is impossible to inspect it.

Senator HATFIELD. All right. Thank you very much, Mr. Sims.

[A short recess was taken.]

Senator HATFIELD. The committee will please come to order.

Mr. Borgman, I wonder now if you will give your statement, please? We have a copy of this statement, and if you will proceed to read it, I would appreciate it.

STATEMENT OF ERNEST J. BORGMAN, GENERAL SUPERINTENDENT, KLAMATH FALLS GROUP, NATIONAL PARK SERVICE

Mr. BORGMAN. My name is Ernest J. Borgman, my title is general superintendent, Klamath Falls Group, National Park Service. My responsibility is to oversee operations in three National Park Service areas in Oregon and one in California: Oregon Caves National Monument, Lava Beds National Monument, John Day Fossil Beds National Monument and Crater Lake National Park. My office is located in Klamath Falls, Oreg., and I have a small administrative and professional staff, which provides support in areas of payrolling, purchasing, accounting, interpretation, biological research, and technical maintenance skills for these same four areas. I have been employed by the U.S. Government for nearly 27 years. All but 2 years of that time has been with the National Park Service.

The first inkling I had that a situation might be developing at Crater Lake, which later reached devastating proportions, but which at the time I did not consider alarming, was a report received while I was on a trip to Portland on July 1.

Dale Stradling of Eastern Washington State College——

Senator HATFIELD. Mr. Borgman, let's stop for just one moment here on this "first inkling." The word "inkling," did you have any report or any information, any knowledge, any fact, any test, any type of thing at all that would indicate that there was some problem, a problem at Crater Lake that had to do with health of the people?

Mr. BORGMAN. Well, I think I explain it in this next paragraph here. But I related this report of July 1 to the information that I had reported to me by the park superintendent, Mr. Sims, that there were some cases of flu at the park. And this was all I knew, there was flu at the park, there had been some cases. And when this report of food

poisoning came to me I really didn't relate this to any kind of problem at all, except I related it to the fact we did have some illness in the park and the likelihood was this report was the flu and not food poisoning.

Senator HATFIELD. This was July 1?

Mr. BORGMAN. Right.

Senator HATFIELD. Now, just for the record, Mr. Borgman, is there a procedure in the Park Service that would require the Superintendent to alert you or to inform you in any way, to communicate with you about maintenance problems that might include bacteria in the water supply or problems of sewage? Are these routine matters that are normally reported to you, or are they not?

Mr. BORGMAN. Routine matters aren't necessarily reported to me. Anything that is not routine would be.

Senator HATFIELD. For instance, would there be any requirement or procedure in your normal park administration which would require or you would expect to be informed about the tests that were taken or about the information that came out of the examinations in March of 1975 that the water was contaminated?

Mr. BORGMAN. Well, let me explain to you my understanding as far as water sampling is concerned—and this is what I understood at the time, I have learned a lot more since then. A water sample that comes back showing some positive indication is not necessarily anything to get alarmed about as far as my being in the National Park Service is concerned, and my information on water sampling is it is an indication something should be done, some followup to see what is causing it if that continues. But the mere fact you have a part of a sample that comes back positive is not an alarming thing, and I would not normally expect a report on it.

Senator HATFIELD. You would normally expect a report?

Mr. BORGMAN. No. If I had, say, two samples that came back 5.5 each in a row, then that would be something to get alarmed about.

Senator HATFIELD. When tests are made are these made part of the record——

Mr. BORGMAN. Yes, sir.

Senator HATFIELD [continuing]. Of the local Park Office, the National Park Office?

Mr. BORGMAN. My office?

Senator HATFIELD. No, the National Park itself. In this instance all these tests were made a part of the record at Crater Lake National Park.

Mr. BORGMAN. At Crater Lake, and also I have a record of them in my office. Jeff Adams keeps a record in my office.

Senator HATFIELD. Of these tests?

Mr. BORGMAN. Yes, sir.

Senator HATFIELD. Made on May 27, June 9, June 23, and any other such tests?

Mr. BORGMAN. Right, a copy is sent to my office.

Senator HATFIELD. I am not asking you to make a judgmental statement on those tests, but in effect you had in your office then a report of the contamination that was discovered on March 12, 1975, by just the normal procedure of receiving a copy of the report?

Mr. BORGMAN. That is correct.

Senator HATFIELD. So you had that report in your office?

Mr. BORGMAN. Yes, sir.

Senator HATFIELD. Now, as I understand, you read that report through, looked at the scale of the tests or whatever the criteria is, and you determined that it was of no significance?

Mr. BORGMAN. That is correct. I determined that it was not any matter for alarm.

Senator HATFIELD. Do the same records on sick leave, leave on illnesses of the Park personnel in a National Park, such as in the case of Crater Lake, are they normally referred to your office too?

Mr. BORGMAN. I have a girl there that maintains the payroll for all four areas, and she does really all the sick leave records. Now, I do not review those records.

Senator HATFIELD. But those are handed through more the budgetary aspects of your office only to crank into the computation of pay?

Mr. BORGMAN. That is correct.

Senator HATFIELD. So you would not have the reports on the water tests and data on illness of personnel at the Park, you would never have that on your desk simultaneously for that kind of an observation, would you?

Mr. BORGMAN. No; unless there was some specific reason to accumulate that information.

Senator HATFIELD. But in the normal procedures these would never hit your desk in any kind of relationship?

Mr. BORGMAN. That is correct.

Senator HATFIELD. Mr. Sims had earlier indicated there were samples taken on May 27 and June 9 and June 23 which showed no signs of contamination, yet in the interrogation he did admit there were some samples taken on May 12 which indicated contamination. You had a copy of that report as well in your office?

Mr. BORGMAN. Yes, I did.

Senator HATFIELD. What was your judgment when you read that report?

Mr. BORGMAN. I looked at the sample which came after it, which was a good sample.

Senator HATFIELD. I beg your pardon?

Mr. BORGMAN. I looked at the sample following the 2.5 report that was received on the test on May 12.

Senator HATFIELD. That was 2 weeks later?

Mr. BORGMAN. That is right. I did not look at the May 12 sample at the time it came in, I reviewed that record later when the question of what was the cause of the illness at Crater Lake came up.

Senator HATFIELD. When would you normally review a report of this kind that is sent to your office?

Mr. BORGMAN. When a situation comes like this one did that there is a question about the water, there is illness, there is a problem, then I would review it. Otherwise, I don't review those water samples on a regular basis.

Senator HATFIELD. I see.

Mr. BORGMAN. The file is maintained in my office, but I don't review it every time it comes in.

Senator HATFIELD. Perhaps we ought to ask how are they received and what is the procedure used in your office when these water samples

are received? Are they merely opened by clerical persons and filed, or are they read by someone?

Mr. BORGMAN. Mr. Jeff Adams, who has the dual responsibility of maintenance operation in the park, also has the responsibility in my office to maintain assistance in my office, and he maintains those records. It is hanging on the wall, you can look at it at any time.

Senator HATFIELD. So they are received by Mr. Adams, these normal routine reports are received by Mr. Adams?

Mr. BORGMAN. That is correct.

Senator HATFIELD. He reviews them?

Mr. BORGMAN. Goes through the procedure of mail distribution and he gets a copy.

Senator HATFIELD. He receives them in your office?

Mr. BORGMAN. Yes. He also has availability to them in the Crater Lake office.

Senator HATFIELD. Pardon me?

Mr. BORGMAN. There is also a copy kept at Crater Lake in the park.

Senator HATFIELD. Well, Crater Lake initiated it?

Mr. BORGMAN. Well, the copy comes down from the lab in Portland.

Senator HATFIELD. Then returned to Crater Lake, then sent to you?

Mr. BORGMAN. Right.

Senator HATFIELD. Then it is up to Mr. Adams, in effect, to make a judgment on those reports initially, and usually under normal procedures his is the sole judgment, is that correct?

Mr. BORGMAN. No. As far as my office is concerned, yes.

Senator HATFIELD. Yes.

Mr. BORGMAN. But not as far as the park is concerned.

Senator HATFIELD. But as far as your office is concerned?

Mr. BORGMAN. Yes.

Senator HATFIELD. Then if he thinks there is something of a serious nature he would report it to you?

Mr. BORGMAN. Yes, sir.

Senator HATFIELD. All right. So now we are down to Mr. Adams, aren't we, as far as getting the reports and making judgments on those reports?

Mr. BORGMAN. Yes.

Senator HATFIELD. I will reserve some questions on that to Mr. Adams. But you received no information from Mr. Adams there was any information or any problem at Crater Lake on the reports of March 12, 1975, and May 27, 1975?

Mr. BORGMAN. There may have been some reference to them at the time. As I say, those results at the time or after the time did not constitute an alarming situation as far as he was concerned, and he would not have paid that much attention to those reports.

Senator HATFIELD. Let me understand correctly, did you or did you not know of those reports in any manner, shape or form until July 1 or afterward? Did you know before July 1?

Mr. BORGMAN. I am sure I did not review them before July 1.

Senator HATFIELD. Did not review them, but did Mr. Adams speak to you about them?

Mr. BORGMAN. Not to my recollection.

Senator HATFIELD. So in other words you had no knowledge of them, personal knowledge?

Mr. BORGMAN. I knew they were there. I knew he keeps a record of it.

Senator HATFIELD. I understand. But you had not seen them and you did not know what the rating was, whether positive or negative?

Mr. BORGMAN. I believe that is a true statement.

Senator HATFIELD. Please proceed.

Mr. BORGMAN. Dale Stradling of Eastern Washington State College reported to the National Park Service field office in Spokane that his daughter, a concessioner employee, believed that there might be food poisoning at the lodge or cafeteria. This incident led me to connect this illness with the reports that I had had a day or two previously about some employees having the flu at Crater Lake.

Senator HATFIELD. What were those reports you had had before July 1?

Mr. BORGMAN. I can't say specifically. The only thing that I know is there was word going around that people at the park were having the flu, and to my knowledge people around that part of the country were having the flu.

Senator HATFIELD. Who informed you about the flu in the park area?

Mr. BORGMAN. It just came by word of mouth, and there was no specific report.

Senator HATFIELD. What kind of communication do you have normally with the park? Do you call each day, or do you have personnel dropping into your office on an informal basis?

Mr. BORGMAN. We have a great deal of communication. I talk with Mr. Sims almost every day, probably every day I am in Klamath Falls, maybe one, two, three times a day. People come down from the park to Klamath Falls to purchase supplies and material. We maintain all the payroll records, there is communication on that, maintenance problems and what have you, there is communication going back and forth all the time.

Senator HATFIELD. So when you refer in your reports here these were general conversational statements, these were not written reports?

Mr. BORGMAN. That is correct.

Senator HATFIELD. When you receive these water test reports what is your responsibility, to assure yourself that they have been properly taken by trained and qualified persons?

Mr. BORGMAN. Well, I have no specific responsibility in that area except to issue through the chain of command that it is done properly.

Senator HATFIELD. How do you get that assurance?

Mr. BORGMAN. Well, the reports from my maintenance specialist, Jeff Adams, and also from periodic inspections made by the U.S. Public Health Service, inspections of environmental matters by members of the regional office and others that are involved in this kind of thing throughout the year. As far as water samples are concerned, the U.S. Public Health Service is the basic agency, and we have a certain person assigned to inspections in the park.

Senator HATFIELD. Are you saying to me Mr. Adams on your staff has the responsibility to assure you that the tests that are received under normal procedures have been carried out under specific procedures that guarantee the accuracy, or at least he believes possibly guarantees the accuracy of those reports and those samples and those tests, with the assumption the people who took them, the time they

took them, the place they took them, all have been adequately trained, or at least have the skills to do them? Is it Mr. Adams' responsibility to give you that assurance?

Mr. BORGMAN. That falls on Mr. Adams' shoulders because he also has the responsibility to report to the Superintendent at Crater Lake. And also the Superintendent reports that.

Senator HATFIELD. But in effect you have the overall responsibility by the very title of your office and responsibility of your office?

Mr. BORGMAN. That is correct.

Senator HATFIELD. If Mr. Adams is not performing his task under an hypothetical circumstance, it is your responsibility to know that and make sure he corrects that, is that correct?

Mr. BORGMAN. Yes. And it would depend on the nature of the situation whether I would go directly to Mr. Adams or directly to Mr. Sims. As a line of responsibility I would go to Mr. Sims, he would go to Mr. Adams.

Senator HATFIELD. As an example, what, in your estimation now, in retrospect, is the reason none of the tests showed up contamination until July 1?

Mr. BORGMAN. I didn't get that question.

Senator HATFIELD. You received the samples and the results of those samples taken on May 12, May 19, June 9, June 23, and July 1.

Mr. BORGMAN. Right.

Senator HATFIELD. In retrospect, why didn't those tests show up contamination when there was contamination?

Mr. BORGMAN. That is a question I would like to know. The very big gap in this whole thing, as far as I am concerned, we should have had tests that showed that.

Senator HATFIELD. I am not so sure there is a gap.

Mr. BORGMAN. I am not sure either.

Senator HATFIELD. Have you reviewed the techniques in terms of the place the samples were taken and under what circumstances? Let's take as an example in relation to the input of chlorine.

Mr. BORGMAN. Yes.

Senator HATFIELD. And the relation of that input to the taking of the sample, both in time and in place, have you reviewed those procedures under which those samples were taken?

Mr. BORGMAN. Yes; after the fact. I didn't review those particular situations at the time precisely.

Senator HATFIELD. All right, now, after the fact what was the reason then that the contamination did not show up?

Mr. BORGMAN. But even after the fact I don't know, because good samples were obtained right at the spring where it should have been the worst.

Senator HATFIELD. You are satisfied with that statement? Do you want that to stand?

Mr. BORGMAN. Well, my whole premise through this whole thing was my error, I suppose in retrospect evaluation, that we were getting good tests, and this should mean we were getting good water. That obviously wasn't the case.

Senator HATFIELD. Mr. Borgman, who were the people who took the samples, and what were their areas of expertise or what was their skill?

Mr. BORGMAN. Well, they were members of the maintenance staff at Crater Lake.

Senator HATFIELD. Members of the maintenance staff. Do you know what their particular specialty or skill was in each case?

Mr. BORGMAN. Well, the one that took the first part of the samples the first part of the year was a plumber, and the one later I think was an electrician.

Senator HATFIELD. And a painter?

Mr. BORGMAN. And a painter.

Senator HATFIELD. Do you know if these men had any training for sampling of water for purposes of a test?

Mr. BORGMAN. I am not aware of any formal training. The instructions they get are from their supervisors.

Senator HATFIELD. Are you aware in retrospect the tests that showed contamination in March 1975 were taken in a different location than those that showed no contamination later in May, June, and July, but which also showed contamination on May 12?

Mr. BORGMAN. I would have to review those records. I think the ones in March were rerun at the exact same locations they were taken, and the rerun showed good samples. The ones on May 12 were rerun at the exact same locations, and the tests came back 0.5 and 1.5 to the best of my recollection, which did not to me indicate anything alarming. Now, I admit that my lack of knowledge in the area of water quality is significant.

Senator HATFIELD. Well, Mr. Borgman, we won't necessarily argue the point, but I think the records of these tests will show they were taken in different places. You have the maintenance office and you have the administration building the report showed on May 19. You have reports then at a later time showing that they were at the Rim Village and the Rim Village restroom on May 27.

Mr. BORGMAN. That is correct.

Senator HATFIELD. And the pumphouse.

Mr. BORGMAN. That is correct.

Senator HATFIELD. But the contamination showed up in the maintenance office and the administration building.

Mr. BORGMAN. And those two tests were rerun at the same place, were they not? And the tests did show——

Senator HATFIELD. Positive.

Mr. BORGMAN. The one positive on that last sample.

Senator HATFIELD. On the rerun.

Mr. BORGMAN. On the rerun.

Senator HATFIELD. At the administration building. So the rerun did confirm the first contamination.

Mr. BORGMAN. Did show 1 point of coliform out of 5. And the procedure should be to follow then again at the exact same location and take another sample.

Senator HATFIELD. But that was not done?

Mr. BORGMAN. I have been informed the samples were taken before, the routine samples were taken before the results of that test was received, and then the followup came back 0.5 in both cases.

Senator HATFIELD. But you did not do the rerun that you would normally do?

Mr. BORGMAN. On that one particular instance the rerun—the routine sample came back 0.5, so I discounted the 1.5 on the rerun.

Senator HATFIELD. Taking it there at the pumphouse is also where the chlorine is dumped, isn't it? Mr. Borgman, I am not an expert, but is there some relationship to taking a sample at the point where you introduced the chlorine that might distort the general overall test of a water sample?

Mr. BORGMAN. Yes; the test should be taken at the distribution points.

Senator HATFIELD. So in retrospect we could say even the samples taken here, and results from those samples, perhaps were not handled properly?

Mr. BORGMAN. I know a lot more about this matter now than I did then.

Senator HATFIELD. Of course we are talking in hindsight now.

Mr. BORGMAN. Right.

Senator HATFIELD. But also we are talking in terms of what your procedures are that should be able to catch some of these things say for the future, what we have learned in hindsight.

Mr. BORGMAN. Right. And we had procedures to follow, which I pointed out at one point we neglected to follow.

Senator HATFIED. Have you reorganized your procedures in light of this experience?

Mr. BORGMAN. Yes, sir, we have.

Senator HATFIELD. You did not follow the established procedures at that time in this instance?

Mr. BORGMAN. The established procedure was followed except for that one incident.

Senator HATFIELD. It is exceptions I am talking about.

Mr. BORGMAN. That is right. But basically speaking, the procedure was followed.

Senator HATFIELD. And in light of this experience you have changed the procedures in what way to handle this in the future?

Mr. BORGMAN. Since we opened the park up on August 1, because we had a completely different situation with the water treatment plant which we had not had before, and we took daily samples, and four different tests rather than one on each of the five samples per day, and we have been doing that up until a few days ago. Now we do it twice a week.

Senator HATFIELD. Do the same people take the samples?

Mr. BORGMAN. In some cases, but we also have employed now a qualified water treatment plant operator, certified by the State of Oklahoma, he is not certified presently I think by the State of Oregon, but he is responsible.

Senator HATFIELD. So that does not become a continuing auxiliary function for a plumber, an electrician, and a painter?

Mr. BORGMAN. Not at the present time.

Senator HATFIELD. What about the future?

Mr. BORGMAN. We don't anticipate keeping that water treatment plant on the line in the future, we are going to a different water source.

Senator HATFIELD. In the future are you going to have qualified trained personnel taking samples?

Mr. BORGMAN. I hope so.

Senator HATFIELD. That's better. Do you have a change in procedure on how they will be reported to your office? Will they still be coming to Mr. Adams?

Mr. BORGMAN. Yes, sir, they will.

Senator HATFIELD. Has Mr. Adams— and I will put the question to him. Perhaps I should put the question to him about whether or not he has changed his procedure. But have you changed the procedure on what Mr. Adams should or should not report to you from the samples?

Mr. BORGMAN. Any indication of any kind of coliform is to be reported to me or the Superintendent.

Senator HATFIELD. Any time there is a plus on this form?

Mr. BORGMAN. Yes. And I can further clarify. We do use that, and we also send samples, daily samples we send to the laboratory in Klamath Falls that is a private laboratory which is State approved.

Senator HATFIELD. Any form of this kind, or equivalent to this form that has any indication, that has a plus on the side of contamination, will you have that on your desk in the future?

Mr. BORGMAN. Yes, sir.

Senator HATFIELD. And you will make a determination. All right, will you please proceed?

Mr. BORGMAN. I asked Superintendent Sims to check out the complaint to see if there could be a possibility of food poisoning. Both Sims and I thought there was little chance that it was, but Sims agreed to keep an eye on the situation. He also advised me that an Oregon State health division official was on the way down to the park and that he would bring the matter to his attention.

Senator HATFIELD. I think at this time, in all fairness, we should permit Mr. Sims to comment on this statement which directly contradicts the statement Mr. Sims made a while ago when I asked him about this particular matter concerning the daughter of an eastern Washington State College professor.

Mr. SIMS. I just didn't realize these were connected, the statement he made about his daughter complaining about food poisoning.

Senator HATFIELD. I believe the record would show I asked you if in the seeking of information on your own how you handled normal procedures of complaints that you received in reference to the concessionaire, and I believe you responded when I specifically asked you about this case that you were not aware of this case.

Mr. SIMS. To be perfectly honest, right now I do not recall Mr. Borgman telling me this, but I would have to relate it is very possible. So much has happened I really do not recall. It is possible. I would almost have to talk to Dr. Googins and ask him if I did say something.

Senator HATFIELD. In other words, it is a matter of recall?

Mr. SIMS. I would say so.

Senator HATFIELD. All right, proceed.

Mr. BORGMAN. Peter Von Ohlen, of the Oregon State Health Division, arrived in the park on July 2 and left on July 3. The impression I was left with after he left the park was that the water system checked out OK and that the sporadic occurrence of illness was nothing more than the flu or some kind of virus that was going around. That was my impression. It might not have been the actual case.

On the 3d of July, Sims called me to say that another State health official was coming down to investigate the illness, and on the evening of July 4 reported to me that he and Dr. Googins had canvassed the park and found very few sick people. Sims told me he thought the disease, whatever it was, was definitely on the wane.

I did not go to the park during this period of time—after the 1st of July—until July 8. At that time, I discussed the situation with Superintendent Sims and Dr. Koplan who had just arrived the day before. On this date, there were quite a few sick people in the park, but Dr. Koplan could not tell me what the cause was. He did say in a situation like this water was always suspect, and also that personal hygiene was very important. He said he had asked for some additional help to investigate the case. I reported the situation to the regional office.

Senator HATFIELD. What was the response from the regional office?

Mr. BORGMAN. The response was just keep a check on it and let us know what develops.

Senator HATFIELD. And who did you report that to in the regional office?

Mr. BORGMAN. To Deputy Director Ed Kurtz. It was either Mr. Kurtz or Mr. Howe, and I suspect it was Mr. Kurtz.

I checked the records of water samples with Jeff Adams and he assured me that our records were complete. These records did not indicate to me any problem with the water. Jeff did inform me that chlorine residuals were not being obtained at headquarters, except for a trace now and then. The lack of chlorine residual did not convince me, however, that the water was bad. In fact, I was certain at the time that it was good, because of a test report just received July 1 showing no evidence of contamination. Now, this was received in my office on July 1, it was the June 23 sample.

Senator HATFIELD. The 27th.

Mr. BORGMAN. The 27th; right. No; that would have been the 23d sample, because it takes about a week for the samples to get back.

Senator HATFIELD. OK.

Mr. BORGMAN. During the afternoon of July 9 and the morning of July 10, Sims called me and advised that the doctors were talking to their Atlanta office about closing the park. I relayed this information to Mr. Kurtz and anticipated that consultation in Washington might result in that eventuality. I was somewhat surprised when Joe Schock, in our Washington office, called me to advise that evidence collected which might justify closing the park on July 10 was not enough to warrant such action. This I understood was the conclusion reached in the Communicable Disease Center in Atlanta, after a great deal of investigation, long hours of work and perseverance in pursuit of a causitive agent by Drs. Koplan and Rosenberg. And I would like to add here from reports I had from personnel in the park these two doctors worked day and night trying to find what the problem was, and very diligently. And I relayed this information to Mr. Kurtz and proceeded to the park to review the situation with Superintendent Sims and Facility Management Officer Adams. Adams had a crew uncover a chlorination feedline at Munson Springs which was found to be incorrectly located for proper mix with the storage reservoir, though to my knowledge still, at this time, no water sample had been taken by any of the various representatives of health agencies, which tested bad.

Senator HATFIELD. Before you turn that page, let's reconstruct this just one moment at this point. You received information transmitted to you from Superintendent Sims, this information based upon re-

ports of the doctors, which indicated closing of the park would be a recommendation that they would make?

Mr. BORGMAN. He had informed me that the doctors were very concerned about the health hazards in the park on this date, and had been in considerable telephone conversation with the Atlanta office about the recommendation for closing the park. That was on the 9th of July and on the 10th also. This discussion, as I recall, carried over a period of a couple of days as to the propriety or feasibility or the reason for the decision to close the park because of the health hazard.

Senator HATFIELD. What was your judgment based upon that information, as his superior, as to what should be done?

Mr. BORGMAN. I made no particular judgment at that time as to whether the park should be closed or shouldn't.

Senator HATFIELD. Do you have that authority?

Mr. BORGMAN. Well, I have the authority, Mr. Sims has the authority as he mentioned to issue an order to close ceraain areas of the park for emergency purposes. Now, I don't know of any specific authority granted to me to close the whole park. But I can assure you I wouldn't close the whole park without concurrence from higher authority, nor I am sure would Mr. Sims.

Senator HATFIELD. Mr. Sims said today he did not feel that except for an emergency situation he had the authority to close the park. You're saying to me that short of an emergency situation you would not exercise the authority or you do not have the authority to close the entire park, is that what you say?

Mr. BORGMAN. Right.

Senator HATFIELD. You have the authority to close say a part of the park?

Mr. BORGMAN. That is correct.

Senator HATFIELD. You could close say maybe the concession in the park?

Mr. BORGMAN. There is quite a relationship between what the authority is and what practical applicability is. I may have the authority, but I would not take unilateral action to exercise that authority without approval from higher authority in most instances where closing the whole park is concerned. Now, if we had a forest fire down in the southeast corner, I or Mr. Sims would close that part immediately, and would, to public use, or if some other situation like that would happen we have that authority and would exercise it. But in a situation where you close the whole park, I would not exercise any authority that might be delegated to me to do that.

Senator HATFIELD. Mr. Borgman, I am a little confused. Do I understand you to say technically, legally you have authority, but either by your own style of administration or the tradition in the Park Service you would not exercise that authority without direction from your superior, or at least approval of your superior, is that what you're saying?

Mr. BORGMAN. It would be a matter of judgment on my part.

Senator HATFIELD. What would be a matter of judgment?

Mr. BORGMAN. The degree of what the action was to be, as to whether I would exercise my authority to act or seek approval of higher authority, and that would be a matter of my judgment.

Senator HATFIELD. We are talking about July 9 and 10.

Mr. BORGMAN. Right.

Senator HATFIELD. The park was closed on July 11. Now, we are talking in terms of where you have received information, you are now aware on July 9 of illness in the park, an illness of rather broad proportions.

Mr. BORGMAN. Right.

Senator HATFIELD. Some people had even referred to it as an epidemic. What would be the criteria at this point under this circumstance—not what would be, what was the criteria that you used on this question when it had even been discussed about closing the park upon which you would take the action to say to Mr. Sims, I think we should close the park, or we should close the concession, or we should restrict visitors for 24 hours, or whatever it might be?

Mr. BORGMAN. In this particular case I consulted with the regional office, I consulted with Mr. Sims, the health people consulted with their office in Atlanta, also the Public Health Service liaison man in Washington; there were many people involved in discussion and evaluation of the situation, and my judgment at that particular time was that if the Public Health Service people felt the health hazard was so bad it warranted closing the park, we would close it, and if they didn't, we wouldn't.

Senator HATFIELD. You're using two pronouns there in a very interesting way. If "they" thought it was sufficient, they would close it, and if "they" didn't, we wouldn't. I think a little delineation should be made between "we" and "they."

Mr. BORGMAN. Let me say this, the responsibility for closing the park lies with the National Park Service at whatever level, and that's a matter of judgment in my opinion. Now, the recommendations made in this particular instance would be very serious, considering the recommendations made by the Public Health Service.

Senator HATFIELD. What was your recommendation?

Mr. BORGMAN. Well, my recommendation was not to close the park. That was my feeling at that time.

Senator HATFIELD. We are talking about July 9 and 10.

Mr. BORGMAN. July 9, right.

Senator HATFIELD. Your recommendation to your superiors was not to close the park?

Mr. BORGMAN. Right. Well, let me say this, I agreed with the conclusions reached, and for no particular good reason, that there was not sufficient evidence to justify closing the park.

Senator HATFIELD. I don't think I heard you correctly. Would you restate that last comment, please? I heard you to say for no good reason you had made this decision?

Mr. BORGMAN. I will say I made the decision, that my feeling on closing the park was my own personal feeling and was not related to the professional evaluation. Well, it was related, but I have not the ability or the professional knowledge from a Public Health Service point of view to make a decision one way or the other, that is why I relied so much on the advice of the Public Health Service.

Senator HATFIELD. If your recommendation was not to close the park, why were you surprised when Joe Schock in Washington called to advise you that evidence collected that might justify closing the

park was not enough to warrant such action when you had already reached that conclusion?

Mr. BORGMAN. I had not already reached that conclusion. That was my feeling.

Senator HATFIELD. Can you really distinguish between your personal feeling and your professional responsibilities?

Mr. BORGMAN. Well, in this particular case it was my professional feeling. And again I have to state that I made no decision because I ddn't feel qualified to make a decision as far as public health matters are concerned. Now, as far as closing a park is concerned, that is a major undertaking.

Senator HATFIELD. In what way?

Mr. BORGMAN. Well, it deprives hundreds of thousands of people the opportunity to visit the park.

Senator HATFIELD. Well, it is a very simple operation, though, isn't it of closing it down?

Mr. BORGMAN. Well, but the long-range consequences are very significant.

Senator HATFIELD. See, what we are talking about here is cause and effect, and it seems to me you have all this evidence before you something is wrong, and all this illness is occurring, and all this obviously as an effect, it seems to me then you're puzzling on the matter of what the cause was. It seems to me the collective duty as public officials is to protect the public, and it is like a house that is on fire, you put the fire out before you start determining what the cause of the fire was. You take that action immediately, then you determine what the cause of the fire was.

Mr. BORGMAN. Yes, and this is exactly what the view of the two doctors was.

Senator HATFIELD. But in effect the park was on fire, and you were, in effect, saying what is the cause of the fire before you put it out?

Mr. BORGMAN. Would you restate that, please?

Senator HATFIELD. I am saying here you are with the evidence, hard facts and hard evidence of all this illness that has reached an epidemic proportion—and I am talking about July 9 and 10, the days before the park is closed—you're saying to me, if I understand you correctly, it was your view, your feeling, the park should not be closed?

Mr. BORGMAN. Right.

Senator HATFIELD. And you were relying heavily upon the recommendations of the doctors or professional people, yet their recommendation was to close the park.

Mr. BORGMAN. I think that was their feeling, of course, and recommendation to their higher——

Senator HATFIELD. I think probably with doctors they don't feel too much, they're looking at the evidence with the judgment of a professional person. Now, you have that information, they say close the park, your feeling is not to close the park, I am trying to find out why you had the feeling?

Mr. BORGMAN. Well, the reason is because I did not feel that the evidence was all there, that there was enough evidence to close the park.

Senator HATFIELD. What kind of evidence did you want?

Mr. BORGMAN. Serious illness.

Senator HATFIELD. Hepatitis?

Mr. BORGMAN. Well,——

Senator HATFIELD. Something more than flu?

Mr. BORGMAN. Something more than flu, yes.

Senator HATFIELD. This has absolutely no relevancy whatsoever, but I am reminded of my first session of the Oregon Legislature in 1951, and I had introduced a bill requesting the Southern Pacific to put drop arms at all crossings to prevent accidents. The Southern Pacific response was, "We would be very happy to put them where there have been at least six or more fatalities." It seems to me what you're saying to me is someone has to really get very, very, very ill before you would take action. I am not being critical, I am just saying it is obvious we are coming back to your philosophy of administration, and the way you view your authority and the willingness to exercise your authority, rather than to scientific data on the seriousness of the illness, isn't it?

Mr. BORGMAN. It was a matter of my judgment at the time.

Senator HATFIELD. Did you give your superior your recommendation that it would be to not close the park, Mr. Kurtz?

Mr. BORGMAN. Not in so many words.

Senator HATFIELD. A strong implication?

Mr. BORGMAN. Right.

Senator HATFIELD. Did you tell that to Mr. Sims?

Mr. BORGMAN. I reported to him the discussion I had with Mr. Schock and Mr. Kurtz and others involved. And again I say my contribution here was only a recommendation, I did not make any decisions at this particular time.

Senator HATFIELD. Had you had a case of hepatitis or something more serious reported to you, and it was directly related to you, would you have closed the park?

Mr. BORGMAN. If it was a situation that warranted it, yes, sir. But I would not do it without concurrence from higher authority.

Senator HATFIELD. So you would not have done it on your own authority, you would have sought the approval or instruction from your superior?

Mr. BORGMAN. To close the whole park, yes, sir.

Senator HATFIELD. I wonder what Mr. Kurtz would say if I asked him the same questions, do you know?

Mr. BORGMAN. Unfortunately, he is not here today.

Senator HATFIELD. I know. Mr. Sims would not close it on his authority, you agree Mr. Sims would have the power as Park Superintendent to close the park under certain circumstances?

Mr. BORGMAN. Under certain conditions, yes.

Senator HATFIELD. But Mr. Sims says he would not do it without approval by you, as his superior, you are saying you would not do it without concurrence or approval of your superior, and I am thwarted at this point on asking your superior——

Mr. BORGMAN. One further point I should like to make. I would like to think if I made a strong recommendation, and I have a strong belief that should be so, my superior would concur in my recommendation.

Senator HATFIELD. At what point did you discuss this situation with Mr. Peyton?

Mr. BORGMAN. The first real serious consideration of Mr. Peyton, or conference with him, was the night of July 10.

Senator HATFIELD. What were his views that he expressed to you?

Mr. BORGMAN. Well, I think I have them down here someplace.

Senator HATFIELD. Well, let's proceed with your written statement. You were in the middle of page 3, "This I understood was the conclusion——"

Mr. BORGMAN. "This I understood was the conclusion reached in the Communicable Disease Center in Atlanta." I read that.

I relayed this information to Mr. Kurtz and proceeded to the park to review the situation with Superintendent Sims and Facility Management Officer Adams. Adams had had a crew uncover a chlorination feedline at Munson Springs which was found to be incorrectly located for proper mix within the storage reservoir, though to my knowledge still, at this time, no water sample had been taken, by any of the various representatives of health agencies which tested bad.

Also at the spring with Adams were Doctors Koplan and Rosenberg. The four of us discussed various aspects of the problem. Statistics compiled by the doctors showed a severe attack rate with recurrence and the doctors were very obviously concerned about the public health hazard present and were perplexed about the transmission agent. At this time, approximately 3 p.m., July 10, Dr. Rosenberg expressed his opinion to me that it just didn't appear to be the water. Possibility of food poisoning had previously been eliminated, but the doctors were nevertheless concerned about sick persons handling food.

My feeling all along had been that it was not the water. I was wrong, of course, as it was proven a few hours later when sewage was discovered running into the spring.

I was notified at home of the sewage overflow at approximately 8 p.m. by Superintendent Sims, and Jeff Adams confirmed later that dye tests did trace the overflow to the water supply.

At that time Adams called me, he and the concession manager, Ralph Peyton, were at the lodge. While we were on the phone, Dr. Rosenberg and others apparently appeared on the scene, and considerable discussion ensued relating to the closing down of the concession operation. Mr. Peyton objected to being closed down. I talked to Mr. Peyton at some length on the phone and explained that there was just no alternative. Use of all water must be discontinued. Without water, we couldn't operate. The time was getting along toward early hours in the morning, and a meeting was set up for early that same day, involving all concerned parties to plan for actions to be taken.

Senator HATFIELD. Why did Mr. Peyton object to it being closed down? What were his reasons?

Mr. BORGMAN. Well, he just didn't like to discontinue operations.

Senator HATFIELD. Pardon?

Mr. BORGMAN. He did not like to discontinue operations. I don't know that he understood completely what the severity of the problem was, that all the water had indeed been contaminated. I am sure, I feel and I take some responsibility for this, that he had not been adequately apprised of the situation the day or two previous to that, and perhaps was caught by some surprise that all of a sudden the whole thing was being closed down. Now, this was not, in my reflection, was not closing the park, it was closing all facilities where water outlets were at this particular time.

Senator HATFIELD. In effect, not closing the entire park but just part of it?

Mr. BORGMAN. Right. Just the discontinuance of all water usage except for the use of toilets.

Senator HATFIELD. So he really hadn't reached the point of understanding the magnitude of the problem, had he? After you explained it to Mr. Peyton, did he still object? You say here, "I talked to Mr. Peyton at some length on the phone and explained that there was just no alternative." Did he still object?

Mr. BORGMAN. Well, we had quite a long discussion. At the end of it, he concurred this was necessary.

Senator HATFIELD. This was not closing the entire park but just the facilities and other water outlets?

Mr. BORGMAN. Yes.

Senator HATFIELD. Did you express to him any view of closing the entire park?

Mr. BORGMAN. I don't know specifically, but when you cut off all the water, there isn't much other alternative.

Senator HATFIELD. Were you aware of illness within his own employee group, the extent of illness?

Mr. BORGMAN. I knew he had some; I did not know the extent of it. Well, at this time I probably did, because the doctor had compiled a pretty good inventory of the sick people.

Senator HATFIELD. And these were employees handling food and serving the public visitors?

Mr. BORGMAN. They were involved in public services of all types.

Senator HATFIELD. And you learned that just exactly when?

Mr. BORGMAN. Well, I can't say exactly when. During the 8th, 9th, and 10th, I was aware of, becoming more and more aware of, the number of people who were sick during this period. And I couldn't tell you right at this time how many people were sick.

Senator HATFIELD. Do I understand you to say closing the concession and all other outlets of water had the effect of closing the park?

Mr. BORGMAN. Yes.

Senator HATFIELD. But you still weren't recommending closing the park?

Mr. BORGMAN. Well, I immediately got hold of the regional director the next morning and advised him what I had done.

Senator HATFIELD. I am speaking of what you said a while ago when you said you were still, your own feeling, not recommending the closure——

Mr. BORGMAN. Not at this time. At this time I was very much in favor of closing the park. This was after the sewage was found coming into the spring.

Senator HATFIELD. But there had not been any more serious flu reported at this point?

Mr. BORGMAN. Well, the sewage running into the water changed my mind. It became obvious to me we had a problem then, very obvious, no question about it.

Senator HATFIELD. The illness up to that point had not moved you enough to order to close the park?

Mr. BORGMAN. No; it was the sewage that——

Senator HATFIELD. At that point, did you start to recall the illnesses and to wonder if there was a relationship——

Mr. BORGMAN. There was no question but what there was a relationship at this time.

Senator HATFIELD. Where were you when this sewage program was constructed?

Mr. BORGMAN. I was probably down in the Virgin Islands somewhere.

Senator HATFIELD. You were not here?

Mr. BORGMAN. I was not here.

Senator HATFIELD. I think now you are on page 5.

Mr. BORGMAN. I was at the park at 7:30 a.m. and closing-down operations began. The first order of business was to evacuate overnight visitors and stop all incoming traffic. A general meeting was held which involved State health division representatives, U.S. Public Health Service doctors, concessionaire representatives, and the National Park Service representatives to plan strategy.

Steps were taken immediately to obtain emergency water supplies for employees. Contaminated water was left in the system to be used for flushing toilets. Emergency water treatment plants were located at Fort Lewis, Wash., and an emergency request was initiated through channels to dispatch units to Crater Lake. Three units arrived Monday morning, the 14th. Immediate decontamination began with the portable army units.

A Park Service purchased treatment plant was delivered on July 25. Emergency contract documents were prepared, and an award was made on August 1 for construction of a pipeline from Annie Spring to Munson Spring for the purpose of securing a water supply out of danger of pollution. This project is now 95 percent complete, and we hope to have it in operation before snow flies.

Decontamination of the water system was completed, and potable water again became available for public use on July 28. The park was reopened on August 1.

Daily monitoring of reported visitor illness has been maintained since reopening the park. Nothing since then has occurred to establish any relationship of subsequent illness to water.

Daily testing of water has also been maintained for total coliform, fecal coliform, fecal streptococcus, and total plate count, a much more extensive testing series than is normally maintained for domestic water supplies. At no time since the park was reopened have water samples shown any signs of contamination.

Senator HATFIELD. Thank you very much, Mr. Borgman.

Mr. Wiggins, I believe you have a statement, and we would be very happly to hear from you.

STATEMENT OF JAMES P. WIGGINS, CHIEF, INTERPRETATION AND RESOURCES MANAGEMENT, CRATER LAKE NATIONAL PARK

Mr. WIGGINS. My name is James P. Wiggins, Chief of Interpretation and Resource Management, Crater Lake National Park. I have been with the National Park Service for the last 8 years and at my present assignment for the past 2 years.

Around June 26 it became apparent to me that we had numerous employees ill with cramps, vomiting, and/or diarrhea.

On the morning of June 30, I was advised by the superintendent the YCC staff requested permission to take water samples as they

thought it was a good idea, as it would either disprove or prove that it was the water causing the illness.

Approval to take the water samples was given. I informed Buildings and Utilities Foreman Frank Whitaker of the project. Five samples were to be taken, two from Rim Village, one from the Steel Circle area, and two from the YCC facilities. Whitaker or I would take them, as that way they would be taken correctly.

Senator HATFIELD. Did you have any feeling the previous ones had not been taken correctly?

Mr. WIGGINS. No; I just thought rather than have the YCC take them at that time, we would go ahead to make sure they were taken correctly at that time.

Senator HATFIELD. Were you aware who had taken them in March of 1975 or other earlier ones?

Mr. WIGGINS. I believe I was aware of one or two samples that were taken throughout the year.

Senator HATFIELD. You were aware of the positive results of the ones taken in March?

Mr. WIGGINS. Right. I think there was one positive.

Senator HATFIELD. Were you aware of the one taken May 12?

Mr. WIGGINS. No; I was not to the best of my knowledge.

Senator HATFIELD. Would you normally be aware of such under the duties of your office?

Mr. WIGGINS. No; generally water sampling is done by the Maintenance Division, they go ahead and taken them, monitor the circumstances.

Senator HATFIELD. So you would not normally come into contact with those routine samples?

Mr. WIGGINS. No. Once in a while they do cross my desk if I am Acting Superintendent.

Senator HATFIELD. So, in effect, when you engaged in this kind of activity you were working outside your professional assignment of duties?

Mr. WIGGINS. Correct.

Senator HATFIELD. But you were concerned enough because of the reported illnesses to do this?

Mr. WIGGINS. Right.

Senator HATFIELD. This was a judgmental thing on your part?

Mr WIGGINS. I was advised by the Superintendent we should maybe take more water samples is what I was doing at that time.

Senator HATFIELD. But you were not normally in a role to advise the Superintendent on this particular question or matter, were you?

Mr. WIGGINS. No; not normally.

Senator HATFIELD. What was your baccalaureate work? What was your major?

Mr. WIGGINS. Biology and conservation.

Senator HATFIELD. All right.

Mr. WIGGINS. Shortly thereafter, however, I received a phone call from Facility Management Office, Jeff Adams, informing me that water samples were OK as one recently came back good and not to bother. I then informed the Superintendent that the request was denied, explaining the reasons why. I was advising I was informed by Jeff the samples taken recently were apparently OK.

Senator HATFIELD. Now; had you indicated earlier there might be a question of jurisdiction in terms of Stubblefield's request?

Mr. WIGGINS. Yes this was I think a few days earlier, I believe it was on the 26th, that Bruce wanted to know who had the jurisdiction of taking water samples.

Senator HATFIELD. How did Mr. Adams find out you were doing this?

Mr. WIGGINS. That I don't know.

Senator HATFIELD. He initiated the call to you?

Mr. WIGGINS. Yes.

Senator HATFIELD. In other words, you had never communicated with Mr. Adams about your entering this project of taking water samples and having them tested because of your concern about the outbreak of flu, then out of the blue Mr. Adams' office called you and said not to go ahead with this because the samples they had taken showed everything all right?

Mr. WIGGINS. Yes.

Senator HATFIELD. Did that incite any curiosity on your part?

Mr. WIGGINS. No; apparently he found out about it and further samples were no good.

Senator HATFIELD. You apparently were not to do any sub rosa because samples——

Mr. WIGGINS. No.

Senator HATFIELD. So through the sample bottles the information flowed upward?

Mr. WIGGINS. Well, you have got a point there. I know my hands were tied, they had the sample bottles, and I had to go through them.

Senator HATFIELD. You say, "I then informed the Superintendent that the request was denied, explaining the reasons why," and that was the reason they had taken tests that showed everything all right from Mr. Adams' office?

Mr. WIGGINS. Yes.

Senator HATFIELD. Is that the full extent of the reasons given you?

Mr. WIGGINS. Yes; according to Jeff Adams.

Senator HATFIELD. Well, according to who else would it be?

Mr. WIGGINS. He is the one I talked to on the phone.

Senator HATFIELD. Well, do you have any other opinion?

Mr. WIGGINS. No, not at this time.

Senator HATFIELD. Under different circumstances would you might have another opinion than this particular format of hearing?

Mr. WIGGINS. That would be debatable.

Senator HATFIELD. But possible?

Mr. WIGGINS. But possible. Or just as a professional opinion.

Senator HATFIELD. I understand. I would not pressure you any further.

Mr. WIGGINS. Thank you.

The illness continued and I heard that Dr. Googins and a nurse from the Oregon State Health Division would be in on July 4 to check on what was causing the illness.

Senator HATFIELD. But you dropped your whole project as of that point?

Mr. WIGGINS. That is correct.

Senator HATFIELD. Let me ask you now, would you have felt you were in somewhat direct disobedience of orders of the chain of command if you had gone into that little shack or office or whatever it is

and picked up bottles and taken samples after you had received permission from the superintendent of the park?

Mr. WIGGINS. I would think so. It would be like if Jeff came to me and told me how to put out a fire.

Senator HATFIELD. In other words, you all have your own specific areas of action and authority, and they're pretty well defined?

Mr. WIGGINS. Yes, right. And a fire can only have one fire boss, and he takes control.

Senator HATFIELD. So here you had illnesses and you were concerned, and you thought water samples had not been——

Mr. WIGGINS. No, I just advised——

Senator HATFIELD. But these are things that came in from your advice, and you had sought out permission from the superintendent to take five bottles and take five samples, you got a no from a superior and he said everything is OK, and that was enough for you?

Mr. WIGGINS. That is correct. I could have wrote to my congressman.

Senator HATFIELD. But within your organization that was an effective estoppel on your part?

Mr. WIGGINS. That is right.

Senator HATFIELD. Did you report this back to Mr. Sims?

Mr. WIGGINS. Yes, I informed him what Mr. Adams said.

Senator HATFIELD. What was Mr. Sims' response to you?

Mr. WIGGINS. He didn't tell me anything one way or the other.

Senator HATFIELD. Did this bother you?

Mr. WIGGINS. Yeah, I guess in a way it did. That is for sure. But in my position, you know, I am bothered quite a bit too.

Senator HATFIELD. I understand. How long have you been in the Service?

Mr. WIGGINS. I have been in roughly 8 years.

Senator HATFIELD. You have every reason to continue upward, haven't you?

Mr. WIGGINS. Yes; I would like to.

Senator HATFIELD. All right. You did not feel intimidated or did you feel intimidated by the call from Mr. Adams?

Mr. WIGGINS. I believe it was pretty strong language he would handle it. It was his area and he would handle it.

Senator HATFIELD. What is strong language in your book? I was in the Navy.

Mr. WIGGINS. Of course we have ladies present here.

Senator HATFIELD. But it was strong enough language you wouldn't use with ladies present?

Mr. WIGGINS. Oh, no, there wasn't any cursing.

Senator HATFIELD. Describe it in any words. Profanity?

Mr. WIGGINS. No; he just said, "Don't bother, things are OK."

Senator HATFIELD. Just casual like?

Mr. WIGGINS. Yeah, right.

Senator HATFIELD. But strongly put?

Mr. WIGGINS. Yeah, right. Do you want me to go on?

Senator HATFIELD. Please.

Mr. WIGGINS. On July 7, YCC Camp Director Bruce Stubblefield informed me and the facility management officer that the water they had tested contained bacteria but no pathogens. A discussion on how to take water samples followed, for if they are not taken properly,

positive readings result. I believe Mr. Adams thought they were taken incorrectly. This may or may not have been the case.

Senator HATFIELD. Why do you think he believed that?

Mr. WIGGINS. Why? If they're not taken properly, most of the time you get a positive reading, and I believe since they went ahead and took them chances are it could come back positive.

Senator HATFIELD. But what did Mr. Adams say that led you to believe he thought they had been taken incorrectly?

Mr. WIGGINS. He explained the process on how to take them correctly.

Senator HATFIELD. Did he then say that they were not taken correctly, or did he imply it?

Mr. WIGGINS. I think he assumed they were not taken correctly.

Senator HATFIELD. On what basis?

Mr. WIGGINS. That you can ask Mr. Adams on.

Senator HATFIELD. What I am asking, did he say to you what the basis was or why he thought they might have been taken incorrectly?

Mr. WIGGINS. No; not at this time.

Senator HATFIELD. So this is a conclusion from your conversation you draw through implicit language rather than explicit language, is that correct?

Mr. WIGGINS. That is correct.

With many experts in the park working on finding a cause for the illness, I knew a solution would be found soon. Opinions on the cause, even by the experts, varied.

Senator HATFIELD. What were those various opinions?

Mr. WIGGINS. Everything from it wasn't the water, it was the flu, possibly food poisoning.

Senator HATFIELD. But who were the experts you're referring to, Dr. Rosenberg?

Mr. WIGGINS. We had, I think, a sanitation engineer up. General talk.

Senator HATFIELD. All right.

Mr. WIGGINS. On July 9 a notice recommending that visitors not use the park water for drinking or related purposes was posted at entrance stations and Rim Village, and the same notice was given out to incoming vehicles.

Senator HATFIELD. What happened to those notices that were posted at Rim Village?

Mr. WIGGINS. I will have to refer to my incident report, sir. Case incident record No. 203 by park technician Thomas McDonough, I informed him at roughly 10:30 to go to the Rim Village area and post for public information this notice, which was done. Later that same afternoon Virgil Kingsley, who is another park technician, informed me he received some kind of information from Park Headquarters to alter nearby notices by placing "not at Rim Village" at the top. Then according to Herschel Henderly, in the morning he apparently remembered seeing the notices up there that stated "This water has been adequately chlorinated and tested daily by the U.S. Public Health Service."

Senator HATFIELD. Is this a notice that you would recognize?

Mr. WIGGINS. And apparently he contacted Mrs. Peyton, and she stated she had a meeting with the U.S. Public Health Service on this matter and they had told her to go ahead and put the notice up.

Senator HATFIELD. That was from Mrs. Peyton?

Mr. WIGGINS. Mrs. Peyton, right.

Senator HATFIELD. Mr. Sims, do have authority as to what goes on those boards and the notices that shall or shall not be attached to such boards?

Mr. SIMS. You're talking about inside the concession?

Senator HATFIELD. We're talking about this very place here at Rim Village to which Mr. Wiggins is now referring. It is inside of a glass case.

Mr. SIMS. I think this would be one outside the building that we would have authority.

Senator HATFIELD. Would be under your jurisdiction?

Mr. SIMS. Yes.

Senator HATFIELD. OK. Now, you're down to where you received this radio request to return to Rim Village.

Mr. WIGGINS. OK. As I mentioned before, Mrs. Peyton stated it was OK, that the water was safe at Rim Village, according to the doctor. And of course Paul Saniset checked with the superintendent on this and confirmed apparently that was the case.

Senator HATFIELD. What was apparently the case?

Mr. WIGGINS. That she had, you know, she was informed by the authorities she could go ahead and take down some of the notices at Rim Village. I believe those were the ones that were inside the cafeteria.

Senator HATFIELD. Are you saying to me Superintendent Sims confirmed the statement of Mrs. Peyton on the matter of the notices?

Mr. WIGGINS. That is what Mrs. Peyton stated.

Senator HATFIELD. Mrs. Peyton stated?

Mr. WIGGINS. Right.

Senator HATFIELD. Did you check it out?

Mr. WIGGINS. No; but Paul Saniset checked it out.

Senator HATFIELD. And who did he check it out with?

Mr. WIGGINS. With the superintendent.

Senator HATFIELD. Mr. Sims?

Mr. WIGGINS. According to this report.

Senator HATFIELD. And according to this report Mr. Sims confirmed Mrs. Peyton's statement, is this what you're saying according to this report?

Mr. WIGGINS. According to this report.

Senator HATFIELD. And so then he returned to Rim Village and removed the signs warning the people?

Mr. WIGGINS. Apparently so, according to the report.

Senator HATFIELD. Well, I have here on the bottom of the page, "I returned to Rim Village and carried out this order at about 12:20."

Mr. WIGGINS. According to the report that is what happened.

Senator HATFIELD. Who had given the order?

Mr. WIGGINS. Well, apparently Paul Saniset checked with the superintendent and it was confirmed. I was not contacted at this time.

Senator HATFIELD. We will make this full report a part of the record. Proceed with your statement.

Mr. WIGGINS. I was informed early on the morning of July 11, this was about 12:30 a.m., that it was indeed the water causing the illness.

Senator HATFIELD. Who informed you?

Mr. WIGGINS. It was the seasonal Park Ranger Victor Affolter.

Senator HATFIELD. All right.

Mr. WIGGINS. I was instructed by the superintendent to commence with the closing of the park at approximately 8:10 a.m. Such action was initiated immediately. Within 5 minutes, visitors were being barred from entering Crater Lake National Park. Rangers swept the inside perimeter of the park informing all visitors that they would have to leave, as the park was officially closed, due to contaminated water.

Other activities that followed included: Sending out notices to approximately 3,000 visitors that had stayed overnight at the lodge or cabins or had obtained gold age passports; the YCC camp was temporarily closed and all enrollees were sent home; entrance stations were being manned around the clock assuring that visitors or unauthorized personnel did not enter the park; and notices of park closure and reasons for this closure were posted at trail entrances warning hikers coming in from other areas of the danger.

Senator HATFIELD. Did the concessionaire cooperate in the closure of the park at this point?

Mr. WIGGINS. We had a few, I guess some, minor problems.

Senator HATFIELD. Would you like to refer back to your case incident?

Mr. WIGGINS. Case incident No. 207, submitted by Gary R. Mason, who is the park technician—I believe I have the wrong report number on that one.

Senator HATFIELD. I think you have a report number——

Mr. WIGGINS. Let me——

Senator HATFIELD. Phillip L. Hixson. It is difficult to read the number from my— Oh, it is 180.

Mr. WIGGINS. OK. According to Park Technician Phillip Hixson he had the job of going down and informing visitors of Cleetwood Trail and those that were taking a boat trip of the park closure. Apparently Gary Mason was also along, and he requested the concessionaire down at the boats to go ahead and contact the visitors on the boats about the park closure. And apparently he was informed that this was, you know, Ralph Peyton's office, he doesn't take orders from rangers but only Mr. Kurtz and Mr. Sims.

Senator HATFIELD. The full report of the incident will be placed in the record. Is that the only incident to your knowledge of noncooperation on the part of the concessionaire?

Mr. WIGGINS. It is the only one I have right at the moment.

Senator HATFIELD. Perhaps you could review your material, and following the luncheon break if you find anything additional, we will come back to that point.

Now, you were the liaison man with the YCC people, is that correct?

Mr. WIGGINS. That is correct.

Senator HATFIELD. Did you convey the problems that existed in terms of numbers of ill people or in any other way to identify such a problem to the superintendent?

Mr. WIGGINS. Well, I believe it was apparent. He stated here on June 26 people were sick. I think everybody in the park realized this. But as far as actual written statements; no.

Senator HATFIELD. Do you recall making any oral statements to the superintendent concerning this particular problem?

Mr. WIGGINS. I would say I probably did, the dates or times I don't know.

Senator HATFIELD. Did any of the seasonals report their illness along with their families to you?

Mr. WIGGINS. Let's see. I lived right in the area and I was aware. I was living right in the community, I knew people were sick. They didn't need to write, I was aware people were sick.

Senator HATFIELD. I believe that on or around June 27 you had a discussion with Mr. Stubblefield about the question of delaying the opening of the YCC program, do you recall that?

Mr. WIGGINS. I believe that was on the 26th, wasn't it?

Senator HATFIELD. Did you relay this particular information or discussion to the superintendent?

Mr. WIGGINS. No; I don't believe I did.

Senator HATFIELD. Did you not think it was of such importance at that time or why didn't you relay it to the superintendent?

Mr. WIGGINS. Because I was still thinking at that time it was the flu, and I am sure that is all I was thinking it was the flu and there would be no need to.

Senator HATFIELD. But you were talking about the possibility, though, of delaying it because of the flu?

Mr. WIGGINS. Yeah, right.

Senator HATFIELD. So obviously it was of such importance to delay the opening of the whole program, you had a discussion about it?

Mr. WIGGINS. Right; I was concerned.

Senator HATFIELD. But you did not relay that to the superintendent?

Mr. WIGGINS. No.

Senator HATFIELD. Were you ever instructed or was it ever implied or intimated to you, you should not discuss the illness or the extent of the illness or the concerns about the water quality?

Mr. WIGGINS. No.

Senator HATFIELD. By anyone?

Mr. WIGGINS. No.

Senator HATFIELD. Thank you very much.

[The reports referred to by Mr. Wiggins follow:]

FORM 10-343
(Rev. 3-73)

United States Department of the Interior
NATIONAL PARK SERVICE
CASE INCIDENT RECORD

1. ORGANIZATION CODE: 1 3 2 0	2. ORGANIZATION (PARK) NAME: Crater Lake National Park, Ore				3. LOCATION CODE: 0 2 0 0			4. CASE/INCIDENT NO.: 3 0 2			
5. LOCATION OF INCIDENT: Rim Village	6. WHEN DID IT OCCUR?	MO. 0 7	DAY 0 9	YR 7 5	24 HOUR TIME	HRS. 1 0	MIN. 3 0	7. DAY OF WEEK: 4			
8. OFFENSE/INCIDENT CODE: 0 0 0 3 0 0	9. NATURE OF INCIDENT: Posting Public Notices Hazardous Condition				10. HOW REPORTED						
11. REPORTED BY: James Wiggins	12. ADDRESS: Crater Lake, Ore				13. PHONE { HOME / BUSINESS						
14. RECEIVED BY: Thomas McDonough	15. WHEN RECEIVED DATE: 7-9-75				16. TIME BROADCAST						
17. INVESTIGATED BY: Thomas McDonough	18. OFFICER/RANGER NO.: 4 8 5 5 3				19. WHEN INVESTIGATED DATE	TIME		DISPOSITION 20.			

	21. INVOLVED PERSONS	22. ADDRESS	23. PHONE	24. SEX	25. RACE	26. AGE	27. DATE OF BIRTH
1	Elva Michael	Crater Lake, Ore					
2	James Wiggins	Same					
3	Herschel Herderly	Same					
4	Virgil Kingsley	Same					

28. DETAILS OF INCIDENT

On Wednesday morning, July 9th., Mr. Wiggins requested that I transport several copies of a public notice (copy attached) to the Rim Village area and post for public information. Elva Michael suggested to us that we should wait until she contact Dr. Copeland and got his approval before posting them at Rim Village. Never-the-less, I proceeded to Rim Village with several copies and posted them in various locations to inform the public of the Superintendent's announcement. I placed copies about the cafeteria: on doors into the building, and on a bulletin board outside the cafeteria. I then proceeded to the Exhibit Building and placed copies where visitors might easily observe them: on a bulletin board outside the Exhibit Building and below at the Sinnott Memorial Overlook. Ranger Herschel Henderly had already delivered a few notices to Ranger Virgil Kingsley on duty at the Exhibit Building. Later that same afternoon, about 13:30, Virgil Kingsley informed me that the posted notices did not refer to the Rim Village drinking water. He had apparently received some kind of information from park headquarters. He altered nearby notices by placing, "Not at Rim Village" in red at the top of the page. I then returned to headquarters where I was told by Elva Michael that Dr. Copeland had given his approval on posting the public notices in Rim Village. This was at about 15:00.

COPY OF NOTICE ATTACHED.

29. QUANTITY	30. PROPERTY STOLEN OR DAMAGED	31. ESTIMATED VALUE	RECOVERED 32. DATE	RECOVERED 33. VALUE
34. PROPERTY CODE OF HIGHEST VALUE	35. TOTAL		36. TOTAL 00	00

INVESTIGATED BY (Signature and Date)	APPROVED BY (Signature and Date)

FORM NO. 10-344
(Rev. 3-73)

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SUPPLEMENTARY CASE/INCIDENT RECORD

ORGANIZATION (PARK) NAME	CASE/INCIDENT NUMBER
Crater Lake National Park	203
LOCATION OF INCIDENT	**DATE OF INCIDENT** MO DA YR
Rim Village	07 09 75
NATURE OF INCIDENT	
Hazardous condition-Public Notice	

COMPLAINANT'S NAME	COMPLAINANT'S ADDRESS

RESULTS OF INVESTIGATION

At approx. 10:14, 7-9-75, I picked up a number of the attached handouts to deliver to the Annie Springs Entrance Station to be handed out to each incoming vehicle. I then proceeded to Rim Village and distributed copies to the information desk and the cafeteria cash register. Copies were also left with the girl at the cash register for the Wine Glass Lounge (which had not opened yet) and on the bulletin board in the cafeteria entryway. I then proceeded to give copies to the desk and Virgil Kingsley at the Exhibit Building. While driving past the concessionaire's dormitory a few minutes later, (at approx. 10:45-11:00) Mrs. Peyton stopped and asked about the notices she had heard I was distributing. I gave her several notices, whereupon she showed me a rough draft of a notice which stated, as nearly as I can remember, "This water has been adequately chlorinated and is tested daily by the U.S. Public Health Service." Mrs. Peyton stated that she had just finished meeting with the U.S. Public Health Service, and they had told her that although the Park Service water supply was suspect, the Rim Village water was safe.

At approx. 12:05 I received a radio request to return to Rim Village and remove one of the notices which had been locked in a glass case by Ranger Tom McDonough. Headquarters informed me that lodge personnel had removed the other notices from public view, and the concessionaire had called Superintendent Sims about having a ranger remove the other locked notice. I returned to Rim Village and carried out this order at about 12:20. Time spent-about 40 minutes.

SUBMITTED BY (SIGNATURE AND DATE)	APPROVED BY (SIGNATURE AND DATE)

FORM NO. 10-344
(Rev. 3-73)

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SUPPLEMENTARY CASE/INCIDENT RECORD

ORGANIZATION (PARK) NAME	CASE/INCIDENT NUMBER
Crater Lake National Park	203
LOCATION OF INCIDENT	**DATE OF INCIDENT** MO DA YR
Park Headquarters	07 09 75

NATURE OF INCIDENT

Dispatch of Information Hazardous Condition-Public Notice

COMPLAINANT'S NAME	COMPLAINANT'S ADDRESS

RESULTS OF INVESTIGATION

Mrs. Peyton called and informed me that the Superintendent gave her permission to take down all notices on water from the Rim Area. She said there was still one notice remaining which was located in our locked case in front of the cafeteria. I then proceeded to call Hershel Henderly, one of our Patrol Rangers to take down the posted notice. Thinking twice, I decided to confirm the fact with Mr. Sims. Mr. Sims acknowledged the fact that the notices were to be taken down and it was OK to take down the one in the locked case.

At this time I was working as Dispatch at Park Headquarters Information Desk.

SUBMITTED BY (SIGNATURE AND DATE)	APPROVED BY (SIGNATURE AND DATE)

CASE INCIDENT RECORD

1. ORGANIZATION CODE	2. ORGANIZATION (PARK) NAME	3. LOCATION CODE	4. CASE/INCIDENT NO
1 9320	Crater Lake Nat'l. Park	0500	18

5. LOCATION OF INCIDENT	6. WHEN DID IT OCCUR?	MO	DAY	YR	24 HOUR TIME	HRS.	MIN	7. DAY OF WEEK
North Rim Drive		07	11	75		10	00	

8. OFFENSE/INCIDENT CODE	9. NATURE OF INCIDENT	10. HOW REPORTED
72060,0	Asking Visitors to Leave Park CLOSING PARK	Observed

11. REPORTED BY	12. ADDRESS	13. PHONE (HOME / BUSINESS)
Phillip L. Hixson	CLNP	

14. RECEIVED BY	15. WHEN RECEIVED DATE	16. TIME BROADCAST
	7-11-75	

17. INVESTIGATED BY	18. OFFICER/RANGER NO	19. WHEN INVESTIGATED	DISPOSIT
		DATE 7-11-75 TIME 10:00	20

	21. INVOLVED PERSONS	22. ADDRESS	23. PHONE	24. SEX	25. RACE	26. AGE	27. DATE BIRT
1							
2							
3							
4							

28. DETAILS OF INCIDENT

I called park headquarters and asked if I should proceed around the North Rim and inform people that the park was closed and that they should leave. The reply from Mr. Wiggins was affirmative.

By 11:00 I had contacted all park visitors on the North Rim that I could find. There were a number of cars in the Cleetwood Cove parking area with no people around. I called Ranger Gary Mason by radio and asked him to contact the lodge personnel and request that they call the boats and boat dock with their two-way radio to inform people on the lake and at the dock of the present situation. Mr. Mason made the contact, but personnel there refused to co-operate. When Mr. Mason gave me that information, I had no choice but to proceed down the trail and inform people myself.

I gave the information to the people arriving on the first boat and the concession employees promised to give the same information to the people on the second boat when it arrived an hour later.

Time spent: (Total) 2 hours, walking to and from the boat dock and time spent waiting there: 1 hour.

29. QUANTITY	30. PROPERTY STOLEN OR DAMAGED	31. ESTIMATED VALUE	RECOVERED 32. DATE	RECOVERED 33. VALUE
34. PROPERTY CODE OF HIGHEST VALUE	35. TOTAL		00 36. TOTAL	

INVESTIGATED BY (Signature and Date)
Phillip L. Hixson 7-16-75

APPROVED BY (Signature and Date)
Robert V. Ellis 7/20/75

NATIONAL PARK SERVICE

SUPPLEMENTARY CASE/INCIDENT RECORD

ORGANIZATION (PARK) NAME	CASE/INCIDENT NUMBER
CRATER LAKE NATIONAL PARK	180
LOCATION OF INCIDENT	**DATE OF INCIDENT** MO DA YR
CRATER LAKE LODGE OFFICE (1st floor consessionaire dormitory)	07 12 75

NATURE OF INCIDENT

RESPONSE OF CONSESSIONAIRE TO REQUEST FOR COOPERATION DURING CLOSURE OF PARK

COMPLAINANT'S NAME	COMPLAINANT'S ADDRESS

RESULTS OF INVESTIGATION

During the closure of the park, following the discovery of sewage contamination of the water supply, it became suspect that a number of visitors had descended the Cleetwood Cove Trail toward the lake surface and the consessionaire boat dock. I was assisting in the closure operations in the Rim Village area and monitored patrol ranger Phil Hixson's transmission concerning his preparation to hike down the trail to inform the visitors believed there. I advisd him that I had talked to the boat crew just as they had been departing earlier that morning for the boat dock, and I would approach the consessionaire about requesting he contact the boat crew via citizens band radio and ask them to inform any visitors on the trail of the closure in effect. This would enable him to provide a quicker closure of the north rim drive by avoiding extra time on the trail. I proceeded to the office and asked about the possibility of their requesting the boat crew's assistance. After fifteen minutes of no responce I inquired again and was directed to Ralph Peyton's office. Where he asked me my business and I inquired about possibly contacting the boat crew on his CB radio after advising him of the situation. He informed me that he "doesn't take his orders from patrol rangers, but only from Mr. Borgman and Mr. Sims". I excused myself, departed, and advised ranger Hixson who then hiked down the Cleetwood trail.

SUBMITTED BY (SIGNATURE AND DATE)	APPROVED BY (SIGNATURE AND DATE)
Thomas R Mann 7/15/75	Robert V. Ellis 7/16/75

Senator HATFIELD. Mr. Adams, I believe you have a statement?

STATEMENT OF THOMAS J. ADAMS, FACILITY MANAGEMENT OFFICER, KLAMATH FALLS GROUP OFFICE

Mr. ADAMS. My name is T. J. Adams, facility management officer, Klamath Falls Group Office. I entered the National Park Service in 1946, after service in World War II.

I had a tour of duty at Crater Lake National Park from 1957 to 1969 as maintenance supervisor. In 1969 I moved to Klamath Falls

Group Office in a staff or advisory position to Crater Lake National Park, Lava Beds National Monument, and Oregon Caves National Monument. In the fall of 1973, I was assigned dual roles of staff for the three areas plus line supervisor to Crater Lake National Park.

The sewer system that served the lodge prior to 1965 was a septic tank and leach field which was located east of the lodge in a different drainage. The leach field was giving trouble.

In 1965, the sewerline was constructed to run the sewage from the lodge to Munson Valley Lagoons. The first spring, 1966, this line plugged in manhole No. 27 between Munson Spring and park headquarters. In 1968 during the summer, the line plugged. I marked it on the plans as manhole No. 2. In both cases whatever it was that plugged the line went on down the line. The manholes were cleaned out after they were unplugged. In both cases this was seen shortly after the overflow started. The sewage did not flow for more than 20 feet from the manhole.

In 1974 in the late summer I inspected the sewer line from manhole No. 1 to headquarters.

Normally during spring runoff it was not uncommon to get some bad water samples, but we would rerun and they would clear up. It was felt this was from ground surface water seeping into the spring system, as the spring flow jumps from 23 gallons per minute to around 200 gallons per minute during that time.

Senator HATFIELD. What amount of time would be given between the first test and the rerun normally?

Mr. ADAMS. Normally it is the next week. We are instructed to send out our samples the first of the week, and if we get a bad one back in that week we sent it out, then we can send the next one out on Monday.

Senator HATFIELD. When you speak of a rerun, is this a second test only or is a rerun more than an additional test?

Mr. ADAMS. It would ordinarily be rerun until the thing clears up, it might be two or three.

Senator HATFIELD. Two or three reruns?

Mr. ADAMS. Yes.

Senator HATFIELD. And in each case they would be a week apart?

Mr. ADAMS. That is right, going to Portland.

Senator HATFIELD. It is conceivable over a whole month you could have a contaminated sample or test?

Mr. ADAMS. This is the way it looks to me, sir.

Senator HATFIELD. Well, what has the experience been? How many times did you have to make a rerun on these things? You say, "Normally during spring runoff it was not uncommon to get some bad water samples, but we would rerun and they would clear up." My question is how many reruns did you have to make before you got a clear water sample?

Mr. ADAMS. I can't recall the maximum at this time, I mean I just don't have the records here on that.

Senator HATFIELD. You do have records on this?

Mr. ADAMS. We have records elsewhere on the 1974 stuff.

Senator HATFIELD. If you had to rerun a sample test three times as against one time, would you consider it a problem?

Mr. ADAMS. Now, yes, sir, I would.

Senator HATFIELD. You wouldn't have before?

Mr. ADAMS. The instructions that we have, and still in our new, to keep running, and they never do say where you shut the thing down.

Senator HATFIELD. Would you say that again, please?

Mr. ADAMS. The instructions, Public Health Service Sampling Instructions, if you get a bad sample, take another sample, send it in, take another sample and send it in.

Senator HATFIELD. Those are the instructions from the Park Service?

Mr. ADAMS. No, sir, they're printed in the Public Health Service, I believe.

Senator HATFIELD. Mr. Adams, I understood a while ago these water samples are taken in the fall at the end of the season. When are the water samples taken? You're talking here about the spring runoff, but a while ago someone indicated generally speaking the water tests were taken in the fall.

Mr. SIMS. That was checking the sewer line in the fall.

Senator HATFIELD. Excuse me.

Mr. ADAMS. Water samples are taken every 2 weeks.

Senator HATFIELD. After the spring runoff?

Mr. ADAMS. During the whole year.

Senator HATFIELD. The whole year?

Mr. ADAMS. Yes, sir, every 2 weeks.

Senator HATFIELD. I am puzzled as to what you do during the season when people are there and you get a positive and they say keep having a rerun until you get a better sample, do you do anything after the third rerun when you still can't get a clear one?

Mr. ADAMS. Without the records I don't know right offhand where we had to rerun that many times.

Senator HATFIELD. But the second one, after the second rerun do you take any action other than just waiting for a week to elapse and take another rerun?

Mr. ADAMS. That would be about the practice in the foregoing.

Senator HATFIELD. Is there a level of contamination that the first test would indicate to you some action should be taken without waiting for a rerun? What is you scale that you use in this test, is it a 1–6, 1–8, or 1–10 scale?

Mr. ADAMS. I would have to speak of two scales. There was one before this happened and now there is another one.

Senator HATFIELD. What was the scale that was in effect at the time this incident occurred at Crater Lake?

Mr. ADAMS. As I stated, I don't believe there was over one or two samples we had to rerun over once or twice. Last year we had some bad samples, and I called the State, the people that do the samples.

Senator HATFIELD. Mr. Adams, I am trying to determine what scale you use to know whether something is bad or good. Do you get a numerical symbol like plus 1, minus 1? What is the scale?

Mr. ADAMS. It is 10 percent. Out of so many samples over so much percent.

Senator HATFIELD. All right, what is the percent figure at which point there is danger or it is called bad?

Mr. ADAMS. If it gets over—I am speaking from memory—if it is 10 percent then it is considered bad, 10 percent of the samples.

Senator HATFIELD. In other words, if there shows to be 10 percent contamination on the sample, then that is designated as a bad water sample, is that correct?

Mr. ADAMS. I believe I am quoting the book there right on that.

Senator HATFIELD. Mr. Adams, don't you do this year in and year out every 2 weeks?

Mr. ADAMS. Yes, but this is not the only book I am reading, sir, and I can't sit here and quote them all off.

Senator HATFIELD. This is not what?

Mr. ADAMS. The only thing I have to keep. There is so much stuff now to read, I cannot sit here and quote the book I am speaking about.

Senator HATFIELD. I am not asking you to quote the book, I am trying to find out. We have been talking about water samples here, and this whole incident has revolved around contaminated water, and it is a pretty important case. And I understood from Mr. Borgman these reports come to your desk, and these reports are made every 2 weeks. You have been in the Service since 1946, I assumed by now it would be a simple matter to explain to me what the measurement is between safe water and bad water. As I gather, you're saying to me, by a vague recollection, you are saying if it is 10 percent, then it is bad?

Mr. ADAMS. There are several different methods they take water. California has one, Oregon has one.

Senator HATFIELD. Take Crater Lake.

Mr. ADAMS. That is 10 percent.

Senator HATFIELD. That is 10 percent cutoff level between good and bad water; is that right?

Mr. ADAMS. Yes.

Senator HATFIELD. You get a report that says 8, 2, 3, 9, 10, if you get a report back that says 10 you know you have reached the level of bad water, and anything under 10 is considered safe; is that correct?

Mr. ADAMS. When you send the sample in they break that bottle down into five parts is my understanding, and so that would be the percentagewise you would be working out of those five bottles.

Senator HATFIELD. Do we have a form of the water sample test you get on your desk ever 2 weeks? This is the old form [indicating].

Mr. FIALKEWICZ. This is the one he gets [indicating].

Senator HATFIELD. I have the form here I think you use in which you show across the top a 10-percent level, and you have five categories that the test has been put through.

Mr. ADAMS. Yes, sir.

Senator HATFIELD. Twenty-four hour and forty-eight hour confirmation. And they use symbols of minuses and pluses, is that correct?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. And on this particular one it says there were three pluses, one positive, and two negatives, and that is the final summary of the report. Now, would you interpolate that for me where you have a three positive and two negative, does that show bad water, good water, or does it indicate—and there is a little circle around an "N" which say, "This does not conform."

Mr. ADAMS. That would show bad water.

Senator HATFIELD. How many negatives can you have to show bad water, one negative, two negatives?

Mr. ADAMS. This report, one negative was not meeting the standards.

Senator HATFIELD. One?

Mr. ADAMS. One for drinking water.

Senator HATFIELD. Do you report to Mr. Borgman when you get a negative on a report?

Mr. ADAMS. I didn't on the two foregoing ones here on this.

Senator HATFIELD. Pardon me?

Mr. ADAMS. I don't believe I did on the two that I have here.

Senator HATFIELD. What did you do after you got the negatives, did you just wait for the next report?

Mr. ADAMS. I called Mr. Whitaker, because the person that had been taking the samples had just left, which was an electrician, and now the only person we had left to do it was the painter, so I called Mr. Whitaker to find out if he had taken the samples right.

Senator HATFIELD. Mr. Adams, when you have these people taking the samples, and you have reason to question if they had taken the samples right, am I to assume there is a right way and a wrong way of taking samples?

Mr. ADAMS. There definitely is, yes, sir.

Senator HATFIELD. Do you instruct the sample takers the right way to take such samples?

Mr. ADAMS. Personally, myself, I had not in this case.

Senator HATFIELD. Who would normally instruct such water sample takers on how to do it correctly?

Mr. ADAMS. Mr. Whitaker. There would be a new foreman.

Senator HATFIELD. Mr. Whitaker, had you instructed in this case either the painter or the electrician on how to take those water samples? In other words, the people that were actually taking them, had you instructed them?

Mr. WHITAKER. I observed them, and they were doing it properly. When I got there they were doing it properly.

Senator HATFIELD. Upon your arrival?

Mr. WHITAKER. Upon my arrival at Crater Lake.

Senator HATFIELD. You said they did it correctly, but they had been taking them before you came to observe it?

Mr. WHITAKER. When I came there in May of 1973 I observed these people taking water samples, and they were doing it properly at that time.

Senator HATFIELD. Had they taken water samples before that time in May where you first observed them?

Mr. WHITAKER. As far as I know they have taken them every 2 weeks since time was.

Senator HATFIELD. But you do not know who had instructed them on how to take them before you arrived?

Mr. WHITAKER. No.

Senator HATFIELD. Did the personnel change? I think Mr. Adams said one person left and another person started taking them; was there any change in personnel taking water samples after you arrived, or were the same people taking water samples throughout this whole period?

Mr. WHITAKER. No; it changed once.

Senator HATFIELD. When did it change? Who took over?

Mr. WHITAKER. There was an individual named Blankenship, he left, that did it until May of this year.

Senator HATFIELD. And he did it correctly?

Mr. WHITAKER. Right.

Senator HATFIELD. Then he left?

Mr. WHITAKER. Yes.

Senator HATFIELD. Then who took them?

Mr. WHITAKER. John Boche, the painter.

Senator HATFIELD. Did you instruct the painter on how to take them?

Mr. WHITAKER. I had watched the painter when he was traveling with Paul Blankenship, and he was taking them properly.

Senator HATFIELD. So it was a satisfactory method of taking those samples by your observation of those men who took them throughout this whole period?

Mr. WHITAKER. That is correct.

Senator HATFIELD. Do you have any instructional manual or anything on what to do, other than observe, because you came into the picture after these men had been taking samples? But say these men left and there were new men who had never taken water samples came on to the staff, how would they learn how to take water samples?

Mr. WHITAKER. I would have to show them. I don't have any manual on it.

Senator HATFIELD. There is no manual, but you would instruct them?

Mr. WHITAKER. Yes; I would.

Senator HATFIELD. Mr. Whitaker, what is your training and background in water treatment?

Mr. WHITAKER. I don't have any, just experience. I have never been to any formal training or classes or anything.

Senator HATFIELD. Did you do apprentice work you're saying rather than formal training?

Mr. WHITAKER. No; not in that sense. Maybe you would say by osmosis, I was with people who had done it over the years and kind of learned it that way.

Senator HATFIELD. And no one working for you had ever had any training in water treatment?

Mr. WHITAKER. No.

Senator HATFIELD. And you have had no training?

Mr. WHITAKER. I have not.

Senator HATFIELD. I am not talking about college or formal training, I am talking about on-the-job or apprenticeship training; you have had none of that?

Mr. WHITAKER. No.

Senator HATFIELD. And yet this is your responsibility?

Mr. WHITAKER. Correct.

Senator HATFIELD. All right, Mr. Adams, would you continue?

Mr. ADAMS. I was not involved in any particular events leading up to the closure of Crater Lake National Park until July 2 when I met with Mr. Peter Von Ohlen of the Oregon State Health Division at 2 p.m.

Senator HATFIELD. You say you have never been involved in any particular events leading up to the closure of Crater Lake National Park,

you are speaking of formal action of recommending closure, but on June 30 Mr. Wiggins said you told him not to bother taking any samples; why did you so inform him of this, and how did you find out he was in the process of planning such samples?

Mr. ADAMS. I called Mr. Whitaker about something, and he was the one who informed me. But neither did Mr. Whitaker, or while I was talking to Mr. Wiggins, did anyone mention that the superintendent had said to take samples.

Senator HATFIELD. Or they had approval?

Mr. ADAMS. That is right. I am not one to contradict the superintendent's wishes or orders whatsoever.

Senator HATFIELD. Assuming the superintendent had not been asked about taking these samples, why would you object to samples being taken by a person in Mr. Wiggins' position? In other words, as I understand it, you initiated a call to Mr. Wiggins after you found out from Mr. Whitaker Mr. Wiggins planned this project?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. What triggered your action in calling Mr. Wiggins to have him not take any samples?

Mr. ADAMS. From the best I could get out from Mr. Whitaker's feelings, it was not the superintendent who wanted the samples taken.

Senator HATFIELD. Well, regardless of whether the superintendent knew about it, what would be objectionable about a person in Mr. Wiggins' position in taking water samples?

Mr. ADAMS. I had no objections in people taking water samples per se; we just had a routine, we were taking samples as instructed every 2 weeks.

Senator HATFIELD. Yes.

Mr. ADAMS. And I was just following the routine.

Senator HATFIELD. But you had enough objection to place a call to Mr. Wiggins, and according to Mr. Wiggins at least implicitly say to Mr. Wiggins, don't take the water samples. Why?

Mr. ADAMS. I have no good answer to that other than just a communications breakdown.

Senator HATFIELD. I think you had good communication. How did you find out about it, Mr. Whitaker?

Mr. WHITAKER. Mr. Sims called me and asked me if I would take five samples, and I don't know if I was going to take them or he was going to take them, but anyway we were going to take these five samples. About the time I put the phone down from him, Mr. Adams called, and I said to him I had better get these five sample bottles, and he said, "Don't do anything until you hear from me." And the next thing I knew Mr. Wiggins was calling and saying to forget it.

Senator HATFIELD. Mr. Adams, had your relationship with Mr. Wiggins up to this point been a satisfactory working relationship?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. You had had no incidents of disagreement on any matters that led to any ill feeling on your part or on his part?

Mr. ADAMS. Sure; we have had normal operating disagreements, but nothing with no ill feeling on my part and on his either that I know of.

Senator HATFIELD. Did you feel that Mr. Wiggins by this action was perhaps intruding into your area of responsibility and expertise?

Mr. ADAMS. In my area, not necessarily expertise. But I feel somebody should have said in the conversation the superintendent wanted the water samples.

Senator HATFIELD. There was a crossover in basic jurisdiction here by Mr. Wiggins' action?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. He was actually intruding into an area for which you were responsible?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. And this can be interpreted different ways. I mean a person who has this happen it can be implied by that action his professional competence is being challenged?

Mr. ADAMS. Yes, sir, I believe so. And if Mr. Wiggins, when he got approval from the superintendent, if I would have known it, I am not going to contradict the superintendent's wishes. Or if the superintendent would have called Mr. Whitaker.

Senator HATFIELD. It is a very distinct and understood line of command, this was a horizontal rather than a vertical procedure then?

Mr. ADAMS. Yes, sir.

Senator HATFIELD. Proceed. We went over the water samples, I believe. You're on the fourth line of your second paragraph.

Mr. ADAMS. We went over water sample reports and looked at plans of the water systems. The next day, July 3d, we went out to look and check water systems in the field. In the Munson Springs area there was from 5 feet to 12 feet of snow. We could not get into the water collection gallery, nor could I show him much there except the plans. Chlorine residual tests were made at Annie Springs residence and reservoir, Garfield reservoir, lodge, cafeteria, headquarters reservoir and the administration building. Residual readings were from 1.4 to 2.0 except at the headquarters reservoir and the administration building. No residual could be found there. After we had looked over the water sample reports and discussed them, there was nothing that made us suspect the water. We had nothing else but the reports to go on.

Mr. Von Ohlen told us he had been sick the week before and on Thursday, July 3, he called his boss and that was the first day the boss had been to work that week due to sickness of similar symptoms. After hearing this we were more inclined to think it was not an isolated sickness at Crater Lake. Dr. Googins and some other sanitarians from the Oregon State Health Division were in the park on the 4th of July, but I was not aware of their coming until late that day after they had left. At that time Mr. Sims filled me in on their visit. There was still nothing to make us question the water.

July 5th and 6th there was little new happening.

July 7th I was in the park to meet with Dr. Koplan and various other people that were coming in. Also on that day Mr. Stubblefield and I discussed in Mr. Wiggins' office the water samples the YCC had sent in. I believe it came back marked, "Does not meet the standards for drinking water." I said that they may not have taken it right. Later I learned from Don Carr, whose lab did the test on the YCC water, that two bottles of water were submitted but neither had enough water in them to make a satisfactory sample. Containments of bottles was combined, which is not considered appropriate procedure. No fecal coliform test was run.

So from there through July 10th I was involved in locating spring boxes and water boxes and having them dug out so we could get water samples, and taking people and showing them the utility systems that was not covered with snow. People working on the problem at that time included Ed Barnes and Bill Titus of the Oregon State Health Division and Drs. Koplan and Rosenberg of the U.S. Public Health Service.

July 10th, late that afternoon, about 6:30 p.m. I guess it was, I went up to the Rim area and noted ground showing in the area where the sewer line was and walked down there. That is when I found the overflowing manhole.

I tried to reach Mr. Sims by telephone, but no answer, I then called Mr. Wiktaker and told him what I had found and for him to get equipment and somebody to help him and then come on up.

I then reported my findings to Mr. Sims, Dr. Koplan and Dr. Rosenberg.

Drs. Koplan and Rosenberg and the Oregon State Health people, Bill Titus and Ed Barnes, came on up to the plugged manhole. They asked us to wait a few minutes while they poured dye in the manhole above the one that was plugged. This was to run a dye test to see where the overflow sewage was going. It flowed down the hill and into the spring about 40 minutes later according to Ed Barnes.

Senator HATFIELD. Thank you very much, Mr. Adams.

Mr. Adams, where you discovered this matter did you walk the line?

Mr. ADAMS. July 3d.

Senator HATFIELD. On July 3d?

Mr. ADAMS. Yes, sir. I walked from where I thought the line was, there was 5 or 6 feet of snow there as that time.

Senator HATFIELD. I think the record ought to indicate that the record from Mr. Adams' office on bad testing and bad samples in 1974 began with the Rim Village in May, May 22, 1974; bad test in the maintenance shop, June 17, 1974; bad test in the maintenance shop, July 1, 1974; bad test in the maintenance office or shop, July 1, 1974, as well as in the office and shop; bad test on maintenance shop, July 16, 1974; bad test in the administration building office, July 16, 1974; bad test in the administration building office, July 29, 1974; bad test in the maintenance office shop, July 29, 1974; bad test in the maintenance office, October 29, 1974; bad water test in the Rim Village, December 23, 1974.

Mr. Adams, does that pattern of bad tests in 1974 say anything more than this is just normal or average, or did this trigger some kind of a report or special investigation at any elevation as to why there should be so many bad tests within 1 calendar year?

Mr. ADAMS. I can't even give you a good answer on that, Senator Hatfield.

Senator HATFIELD. Mr. Adams, if we presented this in the form of a report to a water quality agency of some kind, college, university, Federal agency, would that data and the tests accompanying it be able to get some interpretation that you cannot now give?

Mr. ADAMS. I think it would. Now, copies of our reports are going to the Public Health Service and their consultants.

Senator HATFIELD. So all of these bad tests showed up in the Public Health Services offices and they never communicated with you on any question or anything that might have come into their minds?

Mr. ADAMS. It is after the fact, and I guess to some extent we were relying on them.

Senator HATFIELD. Do you care to make any comment or make a general evaluation of the drinking water system in the Pacific Northwest region?

Mr. ADAMS. Yes, I would. Crater Lake's water system was not designed, it happened, and it started back in the 20's. And there is a lot of other parks in this same category. Now, we all know finally what got to Munson Springs was a sewer line being constructed across it, but when we get looking every spring in our headquarters area is vulnerable from sewer lines at some place. And I think the Pacific Northwest has an awful lot of bad systems they haven't been able to get money for to fix.

And one thing, we were talking there about people doing the water sampling. Our plumber, it is generally his job. The thing went vacant last year and we haven't been able to fill it because it's been frozen somewhere.

So I think there is a lot of water systems, to answer your question, that needs to be looked at and evaluated, and it is going to cost a lot to keep something like this from possibly happening again.

Senator HATFIELD. Why I asked the question is I don't know if you are aware of this statement made by Edward J. Kurtz, National Park Service on March 13, 1975, addressed to all areas and offices, Pacific Northwest region, from the regional director, Pacific Northwest region, subject, annual classification of drinking water systems—use prohibited. Are you familiar with that particular document in which he refers?

We have been under the current classification system for 2 years and many systems with marginal test results have received "provisionally satisfactory" ratings. The 1974 calendar year report you have just received is the last straw. The "use prohibited" rating means just what it says.

That is the kicker in the first paragraph. Are you familiar with that communication from Edward J. Kurtz who is your National Parks Service Northwest Regional——

Mr. ADAMS. Yes, I believe I have seen that.

Senator HATFIELD. I would like to make this a part of the record at this point.

You are familiar with this report, Mr. Borgman?

Mr. BORGMAN. That memo you just read? Yes, sir.

Senator HATFIELD. Mr. Borgman, have you or Mr. Sims made any request through your channel of command for appropriations to bring the system up to par?

Mr. BORGMAN. We have now, sir; but not prior to this incident.

Senator HATFIELD. In other words, no requests were made for moneys, appropriations through your budget program and your normal budget procedures to correct the system which had this particular record I have already read into the record, in light of March and the report this regional director made his statement on?

Mr. BORGMAN. We do have a program, a program a couple of years ago for sewer improvement, which ironically would have brought some more sewer into the very line that overflowed, that was intended to go down where it goes now.

Senator HATFIELD. But now you have made a request through budgetary channels for moneys to correct the Crater Lake sewer problem?

Mr. BORGMAN. Not only made the requests, we have the project almost completed for development of a new water system.

Senator HATFIELD. That is a reprograming?

Mr. BORGMAN. Well, that is an emergency program.

Senator HATFIELD. We were talking earlier about the design of this sewer system that crossed over.

Mr. BORGMAN. So we are going to vacate the water system to prevent any future possibility of this happening.

Senator HATFIELD. And develop a new one?

Mr. BORGMAN. Yes, sir.

Senator HATFIELD. As a result of this particular incident?

Mr. BORGMAN. As a result of this incident; yes, sir.

[The memorandum referred to by Senator Hatfield follows:]

U.S. DEPARTMENT OF THE INTERIOR,
NATIONAL PARK SERVICE,
Seattle, Wash., March 13, 1975.

Memorandum to: All areas and offices, Pacific Northwest region.
From: Regional director, Pacific Northwest region.
Subject: Annual classification of drinking water systems—use prohibited.

We have been under the current classification system for two years and many systems with marginal test results have received "provisionally satisfactory" ratings. The 1974 calendar year report that you have just received is the last straw! The "*use prohibited*" rating means just what it says.

In order to comply with the requirements of the Environmental Protection Agency and the recommendations of the Public Health Service, the Superintendent shall immediately close all "use prohibited" water systems and take corrective action as follows:

1. If the system is connected to occupied employee residences, you may, at your discretion, open these lines and instruct the employees to boil all drinking water. Since we have no control over the visitor all water must remain shut off from hose bibs, drinking fountains, public restrooms, etc.

2. Correct all deficiencies including cleaning out the intake and the screens, replacing the sand filters, correcting leaks, and repairing non-functioning chlorinators.

3. Clean the entire distribution system, flush lines, drain and sweep sludge out of all storage tanks.

4. Disinfect the entire system with a solution of at least 50 parts per million chlorine concentration. Let remain for 24 hours, then drain solution and flush with normally chorinated water.

5. Resume water service with chlorinator running at 0.2 parts per million chlorine residual as tested at far end of system.

6. Resume bacteriological testing using correct and sanitary sampling procedure. If results still come back positive, shut down the system and request assistance.

There are few bacteriological contamination problems that cannot be corrected by following sanitary operating procedures and using sufficient chlorine. We realize that generally the problem areas represent isolated situations in your overall operations. However, we must reiterate the seriousness of these. We will be happy to assist you with any problems in any way possible.

Apparently some errors and confusion have occurred in the naming and numbering of several of your water systems. Please correct and mark up a copy of your report for the use of our United States Public Health Service-National Park Service coordinators at the Denver Service Center. We should appreciate receiving a corrected copy in this Office also.

EDWARD J. KURTZ.

Senator HATFIELD. I think we will take time to hear from Mr. Whitaker from his formal statement, then we will take the lunch break.

STATEMENT OF FRANK WHITAKER, NATIONAL PARK SERVICE

Mr. WHITAKER. My name is Frank Whitaker, and I have been with the National Park Service since May 1973. I have been at Crater Lake all the time since then.

As building and utility maintenance foreman, I work for Mr. T. J. Adams, the facility management officer. It is my responsibility to see that the water samples are collected at the proper time. In this case samples were to be taken every 2 weeks and mailed, usually on Monday, to the Oregon State Health Division in Portland. We mail on Monday in order to allow transit time and 48 hours test, all within the same week. Often it was a week or more before the sample results were received here in the park. If I was asked to resample because of a positive reading, I usually would have to wait until the following week when the routine sample was due again in order to allow the mail to arrive in time to be tested before the weekend. I do feel that based on the information we received from the Oregon State Health Division we had no cause for alarm, the sample results indicated nothing seriously wrong.

During May of this year when we received bad water samples, the feeling was not one of great concern due to the history of bad water samples during spring runoff period. In May 1974 we received some bad water samples and were told that possibly some coliform had entered the spring collection box. We tried at that time to slow the spring water down in order to do a more effective job of chlorination, and had partly succeeded. In other words, a bad water sample during spring runoff was not unusual.

When we would take residual chlorine readings, if the readings were low, we would simply add more chlorine than had been added before. There was no magic formula that stated how much to put in at any certain time. Sometimes, due to the time of year, we couldn't get a good residual reading because of the tremendous volume of water pouring into and out of our tanks. At one time, in early June, I think, I had added a much larger amount of chlorine to the system only because I had just opened up some seasonal buildings. There was no way to do a good job of chlorinating with the system as it was. However, I personally felt that if we had a water problem, certainly the State Health Division office would have called and notified us.

I have never received any formal training in water treatment, nor has anyone of the people who worked for me. To the best of my knowledge, the method of sample taking and applying chlorine has been passed from person to person without any written direction or instruction.

Senator HATFIELD. We will now recess until 2:30 p.m., and I would like you gentlemen to return. Perhaps later on we will have further questions. But in the meantime the committee will stand in recess until 2:30 p.m.

AFTERNOON SESSION

Senator HATFIELD. The committee will come to order, and I would like at this time Mr. Bruce Stubblefield, the YCC director of Crater

Lake National Park. I believe Mr. Jack Stump is here, I wonder if he would join Mr. Stubblefield at the table.

STATEMENT OF JACK STUBBLEFIELD, YCC DIRECTOR, CRATER LAKE

Mr. STUBBLEFIELD. Senator Hatfield, members of the committee, my name is Jack Stubblefield. I am YCC director at Crater Lake. Jerry Higgins, the personnel director, is also here. I don't believe he is in the room.

Senator HATFIELD. All right, he can join you later.

Mr. Stubblefield, we have a copy of the chronology of the YCC involvement in the Crater Lake epidemic, which I believe you prepared.

Mr. STUBBLEFIELD. Yes, sir.

Senator HATFIELD. And that will be placed in the record. And I would like, therefore, with that as part of the record, to move directly to a couple of questions, unless you have an opening statement you wish to make?

Mr. STUBBLEFIELD. No; that would be fine with me.

Seantor HATFIELD. First of all, Mr. Stubblefield, would you describe for the record the general number of people you had under your responsibility and the YCC relationship to the Crater Lake administration, that is the administration of the National Park Service?

Mr. STUBBLEFIELD. Yes, sir. The Youth Conservation Corps is an organization for American youths. It is administered through various Federal agencies, the National Park Service being one of them. At Crater Lake we have an organization which involves 30 youths. I have seven staff people, two cooks, which is subcontracted, for a total of 39 people.

The relationship of the youth to the park as they work for the Federal Government in conservation-type projects for pay. It is more than a job. There are three main objectives to the program, first being work, second recreation, third education, not necessarily in that order. My staff works for southern Oregon State College, the Oregon Board of Higher Education. We contract operation of the camp for the park.

Senator HATFIELD. Now would you please give us a summary of when the illness first broke out among the members of your staff and/or persons participating in the program under the YCC responsibility, and the sequence of the expansion?

Mr. STUBBLEFIELD. My cooks, two cooks arrived on June 21; the seven staff members, myself included, arrived on June 23. We also had three youth leaders arrive on that day.

On June 24 the first of my staff became ill in the late evening of the 24th. On the 25th three staff became ill and two youth leaders became ill. This was less than 48 hours after their arrival at the park.

I might add on our arrival on the 23d we were informed I believe by Mr. Wiggins there was some flu going round in the park. The illness was apparent to us in the park I would say.

On the 25th we attended a defensive driving class run by the park service for all government employees, and at that class there were people who were ill at the time. There was a lot of talk about illness in their families, especially among the naturalists staff. I myself and

two of my staff became ill that night and we weren't able to return for the second half the next day. Mr. Stump did attend and reported back pretty much of the class was not able to return. Mr. Stump became ill on the 26th.

We had a staff meeting on the 26th where we discussed the illness, and we, not being experts but having had, most of us being school teachers having had some acquaintance with flu epidemics, we decided it didn't resemble any flu we had seen, mainly because of the abrupt onset of the symptoms and rapid spread of the infection at near 100 percent attack rate. In addition, we talked about, well, what could it possibly be if it wasn't the flu? We talked about food poisoning, decided that was out of the question. We decided the water was probably the only source of ingestion.

I had been sick for about 24 hours.

On the afternoon of the 26th I approached Mr. Wiggins in his office where we discussed the problem. I asked him about water quality at that time. He responded it was tested frequently. I suggested that maybe the county health department be asked to come up and inspect and investigate to see if there was some problem with the water or some other problem. Mr. Wiggins said that the U.S. Public Health Service would handle any problem in the Park, the county or State did not have jurisdiction. We more or less left it at that. I suggested that some experts be brought in to examine it.

Mr. Wiggins at this time asked about the possibility of closing the camp or postponing the camp. We discussed that briefly, and I was opposed to closing the camp at this time even though I was having some suspicions of it not being the flu. In retrospect I wish we had of course closed the camp.

On the 27th—I might back up just a minute and add on the 25th, when we were at the Rim concession the evening of the 25th Mr. Stubblefield talked to Glen Happle, I believe his name is, that is employed by the concessionaire there, and was told that they had a high rate of illness up there too, and suggested we take Kaopectate.

On the 27th most of us appeared to be getting well, and we left—this was a Friday—we left in the afternoon to our homes, several of us did, until the following Sunday. On the 27th we had one more person become ill, that was Judy Weekly, the cook.

On the 28th most of us were out of the Park.

But on Sunday, the 29th of June, the day the enrollees arrived, four of the staff suffered a relapse with the same type of symptoms, diarrhea, violent cramps.

On the afternoon of the 29th, 25 enrollees had arrived. They had arrived I guess it would be on Saturday, came in a day early, so on the 29th we had everyone in the camp that was going to arrive. We had 39 people total.

That night I had to return to my home. I was on Grand Jury for Josephine County and I had duty the next day. In my absence there was a staff meeting. I was aware it was going to be held and aware of what they were going to talk about. Mr. Higgins presided. It was decided to take a water sample on our own if the Park would not. That day Mr. Higgins went to Mr. Wiggins' office and discussed the illness and the possibility of a water sample. Mr. Wiggins agreed initially. He left the room, walked down the hall, conferred with

Mr. Sims, returned and said, "Yes, it is all right, go ahead with the water sample." While Mr. Higgins, my assistant was still in the room, and you will probably hear his explanation on this, but he received a telephone call, which has already been discussed, apparently from Jeff Adams. There was some discussion as to whether we should take the test or not. He said no, we should not, let it go. As I said before, we had made up our mind already we were going to take the test. The Assistant Director of the camp, as the health and safety officer, has the authority to do that I believe. We took the test then with what we though was not the approval of the Park. As a matter of fact, in direct opposition to their statement not to take it.

Would you like me to elaborate at all?

Senator HATFIELD. I would like to interject a question. At what point did you inform Superintendent Sims of the situation in the YCC program that you have just outlined?

Mr. STUBBLEFIELD. I did not inform Mr. Sims of the situation. I did inform Jim Wiggins, our liaison project manager, the forest ranger.

Senator HATFIELD. Had you met Superintendent Sims?

Mr. STUBBLEFIELD. Yes.

Senator HATFIELD. When did you meet him?

Mr. STUBBLEFIELD. I met him the year before. I was also the director in 1974.

Senator HATFIELD. That previous year did you have any meetings with Superintendent Sims, or did you report to him incidents or development of the program, or the experience of the program, or on any other subject?

Mr. STUUBLEFIELD. Your question has two parts. Yes; I had meetings with him; no; I did not report to him on any aspect of the program.

Senator HATFIELD. What kind of meetings did you have?

Mr. STUBBLEFIELD. When we first met he welcomed us, discussed Park operations. The other meetings I would say would be a casual type drop in, maybe for a movie in the evening, or see him in the Headquarters building.

Senator HATFIELD. Why didn't you inform Superintendent Sims as to these developing problems and your concern about those?

Mr. STUBBLEFIELD. We work 100 percent with the project manager, Jim Wiggins. He is our liaison. He represents the Park to us.

Senator HATFIELD. Was that by instruction that you work only with Mr. Wiggins?

Mr. STUBBLEFIELD. We were never told to work only with Mr. Wiggins, but everything we wanted to do went through Mr. Wiggins. He was the YCC project manager, all jobs, all materials, all requests.

Senator HATFIELD. Did you ever ask Mr. Wiggins if he, in turn, informed the Superintendent of the matters you were discussing with Mr. Wiggins?

Mr. STUBBLEFIELD. I am not sure whether I ever asked him directly that kind of a question, but to my knowledge he did.

Senator HATFIELD. But that was merely an assumption?

Mr. STUBBLEFIELD. No, sir. Mr. Wiggins had commented that Mr. Sims did not feel it was the water. Would you like me to comment on that?

Senator HATFIELD. No; I want you to complete the answer to the question.

Mr. STUBBLEFIELD. Mr. Sims was aware of it, aware we had sick people, was aware——

Senator HATFIELD. Well; my point is how do you know Mr. Sims was aware of it?

Mr. STUBBLEFIELD. Through Mr. Wiggins.

Senator HATFIELD. What did Mr. Wiggins say to you that would lead you to believe Mr. Sims knew about it?

Mr. STUBBLEFIELD. Well, Mr. Wiggins on several occasions told me informally that we had to do what we thought was right, that it was kind of out of his hands, that he had been, in his words, burned on suggesting we take the samples. We were talking about it being a problem with the water.

Senator HATFIELD. That was in reference to his attempting to associate himself with you in taking the samples and his call from Mr. Adams?

Mr. STUBBLEFIELD. It was not only in reference to that, no, but in reference to other meetings.

Senator HATFIELD. But had he not received permission from Superintendent Sims to proceed with the project?

Mr. STUBBLEFIELD. Yes, he did.

Senator HATFIELD. And he informed you of that?

Mr. STUBBLEFIELD. Informed Mr. Higgins.

Senator HATFIELD. So because of the approval given by Superintendent Sims this led you to believe that Superintendent Sims was being informed by Mr. Wiggins of the matters which you had been discussing?

Mr. STUBBLEFIELD. Yes, sir, there was no doubt in my mind he had been informed.

Senator HATFIELD. But you, at no time, had any direct communication with Mr. Sims?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. At what point did you in this whole affair have direct contact with Mr. Sims?

Mr. STUBBLEFIELD. I would say probably the first time Dick Sims and I talked about it would have been on July 3d when he informed me there were some people from the Public Health coming that would be in the park July 4th, and asked if I had any active enrollees or staff that were ill on hand. I think that was probably my first discussion with him.

Senator HATFIELD. You say on July 4th or the 3d you received back through Mr. Jack Stump information by phone?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. Let me back up a minute. What was the date that you received information concerning the result of the tests that were made by the Klamath Water and Soil Testing Laboratory and sent to Mr. Jack Stump?

Mr. STUBBLEFIELD. The first word I received back was on the 4th, and that was verbal over the telephone.

Senator HATFIELD. That was on the phone?

Mr. STUBBLEFIELD. Right. The first written word I received was the 7th in the form of a written——

Senator HATFIELD. This was information based on the report from the laboratory that you received by phone?

Mr. STUBBLEFIELD. Yes.

Senator HATFIELD. How was it described to you?

Mr. STUBBLEFIELD. Over the phone?

Senator HATFIELD. Yes.

Mr. STUBBLEFIELD. Dave Bussen, Klamath County Sanitarian. Mr. Stump had been instructed we would probably receive some word on the 4th, and we were to call Mr. Bussen at home, which I did on the morning of the 4th prior to leaving for Bend. In our telephone conversation he explained to me that the water sample tests were not complete, but that there had been some fecal coliforms isolated, that these were animal coliforms that suggested animal fecal material in the water. He said there were more tests being run, specifically for Salmonella. The tests back from the stool samples we sent in, he didn't have any word. He expected to have some word by Sunday, suggested I call him back Sunday and he would give me something more conclusive.

Senator HATFIELD. Did he in the telephone conversation make the statement to you, "The spring water sample submitted for analysis does not conform with accepted bacteriological standards of purity for drinking water"?

Mr. STUBBLEFIELD. Yes, he did. Something to that effect; yes.

Senator HATFIELD. Which he later put in writing which you received on the 7th?

Mr. STUBBLEFIELD. Yes. He did not put it in writing, we received it from a private laboratory, Don Carr.

Senator HATFIELD. Don Carr?

Mr. STUBBLEFIELD. But Mr. Bussen was giving us the basic information in this report.

Senator HATFIELD. He had received from Mr. Carr? What did you do with that information when you received it on the telephone?

Mr. STUBBLEFIELD. Senator, we are skipping 2 or 3 days here that I think are pretty important to understand our actions, and I would like to go back to it if I could.

I started to ask you if you would like me to elaborate at all on my personal view on the communication between our department and other staff in the Park. The YCC works through Jim Wiggins, Project Manager. We get very good cooperation from him. He is very dedicated, very sincere. He tries very hard to do a good job, and he wants us to do a good job.

A lot of projects we do are maintenance type projects that are handled through Mr. Adams, so we have to work through a ranger, Mr. Wiggins, to do projects that are handled by another person on the same level. Mr. Adams has two foremen under him, Mr. Whitaker and Mr. Boche. There has been I have observed the last 2 years some uneasiness, some irritation between some of these people, and Mr. Wiggins doesn't like to tread into the area, and doesn't like them to tread in his area. But nevertheless, YCC must do some projects in that area. The reason I am bringing this up, I think, it might help you to take water samples, which were in his area. What we were doing is asking to do his job for him. I think it was perhaps a normal response that he was a little irritated.

On the 1st, Jack Stump obtained the water samples. He picked the bottles up on the 30th in Klamath Falls from the Health De-

partment. On the 1st, he received two samples, one of the dormitory we used for family employees, the second sample he picked up from our mess hall. He took these samples following directions that were enclosed, written directions from the Health Department. I have taken one or two since then, I have read the directions, I don't find anything too terribly difficult about taking the water sample.

He returned the water samples to Klamath Falls and talked to Dave Bussen, the Sanitarian. Mr. Bussen questioned him about the Park food operations, et cetera. The Health Department expressed a great interest in the disease, and suggested we talk to Don Carr who runs the lab.

The health department also asked us to obtain some fecal samples. We had plenty of ill people and there wasn't any problem in obtaining those. Stump returned with the fecal samples—left the water samples in Klamath Falls, returned, collected the fecal samples and took them back in the same evening to Klamath Falls to the County Health Department. He talked again to Dr. Boge, who is in charge of the county health. They showed him some water reports, water samples that had been taken in the park that showed positive for fecal coliforms. They showed positive. These were not acceptable. They had been taken the previous month. They showed him letters of complaint they received.

Jack returned that night to Crater Lake.

Excuse me, that was while he was there that evening in Klamath Falls they, being Dave Bussen, made two telephone calls, one to the public health service in Denver, one to the State of Oregon Public Health. Jack Stump was present when those phone calls were made. Mr. Bussen advised Jack Stump he could expect some experts in the park to investigate on July 4.

I might also add this chronology I am reading from was written daily on the day the events happened. For this part and this week beginning on the 30th we kept a written chronology.

On the 2d not much important happened. We had a lot of illness, there were 22 enrollees ill.

On the morning of the 3d, Mr. Higgins and I had gone down to observe a project that was on the campground we were going to do, and Jim Wiggins came down looking for us, and it was kind of an unusual meeting. It was at this point that Jim told us he had done about all he could do, that he had been burned, and he supported us entirely. He said it was something somebody had to do, something we had to get somebody to do, look at the problem, and we had to do what we had to do to take care of the kids. Later that day, Mr. Sims told me there would be a team arriving on the 4th to investigate, a Dr. Googins, and he had been instructed to have any actively ill people on hand.

The next morning——

Senator HATFIELD. At that point this is on the 3d?

Mr. STUBBLEFIELD. This is on the 3d.

Senator HATFIELD. You had how long a visit with Mr. Sims?

Mr. STUBBLEFIELD. I don't even recall exactly how it happened, whether it was a telephone message or—I don't think so. It was not a long visit.

Senator HATFIELD. And he informed you there would be representatives from the Oregon——

Mr. STUBBLEFIELD. He said there would be some doctors in the park tomorrow that wanted to examine some ill people, he would like for us to have any actively ill people on hand.

Senator HATFIELD. Did you at that time share with Superintendent Sims your program of inquiry that you had launched?

Mr. STUBBLEFIELD. No, sir, I did not.

Senator HATFIELD. Did it come to your mind?

Mr. STUBBLEFIELD. Yes, sir, and I discussed it with my staff.

Senator HATFIELD. Then why did you not?

Mr. STUBBLEFIELD. For the same reason I have mentioned before. We have to work with park people. I respect them all, I think they do a fine job. I don't have any criticism for Dick Sims or any of the others. But nevertheless, we have to take care of our own program too. We were doing what they should have been doing, very frankly. If it turned out we were right, which it did, then OK, we were right, we did the right thing; if it turned out we were wrong, there could be some hard feelings. We have a program then operated successfully.

Senator HATFIELD. Mr. Sims had already given approval to this project through Mr. Wiggins at this point?

Mr. STUBBLEFIELD. Yes; he had.

Senator HATFIELD. Then Mr. Adams, as I understand, had interdicted that sequence of action to stop it?

Mr. STUBBLEFIELD. Yes, sir.

Senator HATFIELD. You had certainly evidence at that time that Superintendent Sims was sympathetic to the project, and yet you chose not to discuss it with him? As I understand your answer, you're saying you chose deliberately not to discuss this subject with Superintendent Sims because of your hierarchal relationships, is that correct?

Mr. STUBBLEFIELD. That is correct.

Senator HATFIELD. Did you think this would put Mr. Wiggins in a difficult position, or what was the implication here this would cause difficulty?

Mr. STUBBLEFIELD. OK. One point you will have to understand, we didn't know who the call came from to Mr. Sims' office.

Senator HATFIELD. But you assumed it came from some part of the hierarchy?

Mr. STUBBLEFIELD. I assumed it came from Klamath Falls.

Senator HATFIELD. All right.

Mr. STUBBLEFIELD. Now, I wasn't present. Jerry Higgins I think will tell you it wasn't a suggestion, it was an order, that is the way he felt.

Some of the other points you have brought out, I will agree with them.

Senator HATFIELD. Pardon?

Mr. STUBBLEFIELD. I will agree with them. Perhaps the prime motivating factor we didn't tell Mr. Sims at this point is because we weren't sure we were right. We knew there were going to be some hard feelings if we were wrong. Yeah, I agree.

Senator HATFIELD. Is this why you did not inform Superintendent Sims about the telephone report concerning your lab report from the analysis?

Mr. STUBBLEFIELD. That happened the next morning.

Senator HATFIELD. Yes; on the 4th.

Mr. STUBBLEFIELD. Partially. Mainly I think more important at this time all I had was a verbal conversation with Dave Bussen, whom I had never met, who explained to me what Don Carr had told him. In other words, I had third hand information that was not complete, it said there were fecal coliforms in the water. I could see no point in telling anyone that since they already knew for the past 2 years Mr. Stump reported he had sent water reports that showed them they had fecal coliforms. I had nothing to tell them.

Senator HATFIELD. What reports are you referring to they had to show they had fecal coliforms?

Mr. STUBBLEFIELD. The same reports you had this morning that were on file apparently in the county health department.

Senator HATFIELD. Who had informed you that is what these reports included?

Mr. STUBBLEFIELD. Jack Stump.

Senator HATFIELD. Mr. Stump, had you seen those reports?

Mr. STUMP. Yes.

Senator HATFIELD. And you have, I believe, an academic background, would you state for the record your master's degree and so forth?

Mr. STUMP. No; I don't have a master's degree.

Senator HATFIELD. Well, your graduate work.

Mr. STUMP. I have not even graduated yet. I have completed 4 years of college, I have completed all requirements in biology at Southern Oregon State College.

Senator HATFIELD. You have, through your academic training, become involved with water quality and reports of this kind that would indicate bacteria?

Mr. STUMP. Right.

Senator HATFIELD. In other words, you have the capacity from your academic training to read these reports and know what they say?

Mr. STUMP. Right. I have been involved in a lot of lab work and done water checks before.

Senator HATFIELD. Mr. Stubblefield, as I understand it you made a judgment, and you made a judgment that was in this pattern if I understand the facts correctly in this particular outline: You had been deeply concerned about the outbreak of this illness in your staff and in the young people in your charge, you had had discussions, you had had meetings with various staff people and with Mr. Wiggins, you had made a comparative analysis as to why this was perhaps different than a normal or usual flu bug.

You had asked for, through Mr. Wiggins, a test to be made of the drinking water, this went clear to the superintendent for approval and then was later abandoned on instructions that came from somewhere you did not know, but at least they did not follow through on that, then you undertook through your friend, Mr. Stump, independent action to make an analysis of the water. You had such tests, water samples taken and presented to the Klamath Water Soil and Testing Basin Laboratory, then you received an oral report on the phone on July 4, after the superintendent had directly communicated with you stating there would be doctors in the area making analyses because of the illness and so forth; that the sample of water submitted for analysis did not conform with bacterialogical standards for purity of

drinking water, and among other reasons there were coliforms present in the water, which report was oral and which meant it was going to be further affirmed in some further tests via further communication. But at this particular point in this setting, with that set of circumstances, if I have stated it correctly, you made a judgment, and that judgment was not to relate any of this information to the superintendent? That was your judgment?

Mr. STUBBLEFIELD. That is true; yes.

Senator HATFIELD. Did you make a decision to inform Mr. Wiggins?

Mr. STUBBLEFIELD. Yeah, Mr. Wiggins knew.

Senator HATFIELD. Did you inform Mr. Wiggins?

Mr. STUBBLEFIELD. Jerry Higgins had told him on the day the telephone call took place we were going to make the test.

Senator HATFIELD. Did you inform Mr. Wiggins about this oral report that was given you on the phone that was later supported by a written report?

Mr. STUBBLEFIELD. No; I did not.

Senator HATFIELD. You communicated this information to no personnel in the park service?

Mr. STUBBLEFIELD. That is true.

Senator HATFIELD. Was this a thought out decision that you came to the conclusion not to inform, was it by a positive decision to not inform based upon various and sundry reasons? Was it a judgment of that kind, or would you consider it in retrospect an omission, a failure to inform, or not having really thought about the question of informing?

Mr. STUBBLEFIELD. No, sir, in my opinion we didn't have anything to inform him about on July 4.

Senator HATFIELD. This was a judgment though?

Mr. STUBBLEFIELD. I think it was a fact.

Senator HATFIELD. Well, the fact had been transmitted to you. Now, through Mr. Bussen and Dr. Carr, in transmitting facts to you, they thought it was important enough to call you rather than waiting for the mail to arrive?

Mr. STUBBLEFIELD. No, sir, I called them.

Senator HATFIELD. So at least they gave you the information.

Mr. STUBBLEFIELD. Mr. Bussen gave me the information and told me the tests were not complete, they were not conclusive that there were animal fecal coliforms present.

Senator HATFIELD. But that is not all he said. He said the sample submitted does not conform. You said that was an oral statement he made to you. That is a very positive statement. That doesn't say we are waiting for further tests; that says it does not conform with two underlines under the word "not" for emphasis.

Mr. STUBBLEFIELD. I am curious what the other water samples say.

Senator HATFIELD. We can go to that. But let me make sure I understand you made a deliberate judgment, right or wrong, you made a deliberate judgment with this information on hand not to inform any person in the park service administration?

Mr. STUBBLEFIELD. Yes; I didn't think I had anything to report.

Senator HATFIELD. Well, what was your reaction when you got this oral report?

Mr. STUBBLEFIELD. My reaction was we were drinking, at the present, water that had fecal matter in it.

Senator HATFIELD. That did not bother you at all?

Mr. STUBBLEFIELD. Yes; it bothered me, you bet. I informed my staff.

Senator HATFIELD. But you said you didn't have anything to report; don't you think that was of significance?

Mr. STUBBLEFIELD. Apparently you keep omitting the statement I made that Mr. Stump said he had seen several reports over several years that said the same thing.

Senator HATFIELD. But you discounted those previous reports when you wanted to undertake your own independent study, didn't you? You put little confidence in those reports that had been conducted through the normal channels and thereby you launched your own independent analysis?

Mr. STUBBLEFIELD. I was not aware of those reports when we took ours. I was simply told the water was tested frequently.

Senator HATFIELD. When did you become aware there were such periodic reports and analyses made?

Mr. STUBBLEFIELD. The ones showing coliforms?

Senator HATFIELD. Under the administration of the Park Department.

Mr. STUBBLEFIELD. When Mr. Stump returned the evening of the first.

Senator HATFIELD. Not until the evening of the 1st?

Mr. STUBBLEFIELD. Right.

Senator HATFIELD. Did Mr. Stump tell you then many of them showed——

Mr. STUBBLEFIELD. Yes; he did.

Senator HATFIELD. Thank you very much. Do you have any further——

Mr. STUBBLEFIELD. Yes; I think so.

On the 4th of July we had no actively ill enrollees, we had no actively ill staff. I met with Dick Sims in the early morning sometime, 10 o'clock say. We were preparing to go to Bend. We had made the decision, the staff and I, we needed an outing of some kind. It had been a long, tough week, we didn't want to spend a 3-day weekend in camp doing nothing. We had had a 3-day campout planned. We canceled that. Several staff had had recurring illness. We decided we would probably face the same thing with our enrollees. We thought a 1-day outing would be all right, though.

I talked to Mr. Sims, told him we were planning on going to Bend. I had no actively ill people. I offered to leave some people for the doctors to talk to, leave my assistant, Jerry Higgins. It was Dick Sims' understanding the doctor only wanted to see actively ill people. Dick and I both decided we might as well go ahead and go to Bend.

I wanted to talk to Dr. Googins, or the doctor coming, I didn't know it was Dr. Googins at the time. I assumed they would be in the park longer than one day. So we went to Bend that day, returned late that night or actually early Saturday morning, the 5th.

On the 5th, I went over and talked to the ranger on duty at the desk and learned the team had left the park, obtained a phone number where Dr. Googins could be reached on Monday.

On the 6th, Sunday, of July we had more relapses. I also tried to phone Dave Bussen on the 6th but couldn't reach him.

On Monday, the 7th, I phoned him early in the morning at his office. He told me there were no pathogens in the water, and he did not have a report on the stools yet, but he assumed, since he had no report, there was nothing serious. He assured me they would have phoned me had there been anything isolated.

We received in the mail that morning the water report we have been discussing. It was addressed to Jack Stump, received at about 11 o'clock in the morning. I did not open it until Jack came in in the early afternoon, sometime around lunch time he opened it. It was the water report that reads as you have read several times.

Senator HATFIELD. Did it contain any different information than what had been given you on the telephone July 4?

Mr. STUBBLEFIELD. Just in more detail. For instance, the statement that the water does not conform with accepted bacteriological standards for purity, fecal coliforms present. The letter you're referring to with the word "not" underlined three times, I had no knowledge of this on the phone, of course.

He also says on a total count of 667/ML, that is over a plate count, it shows 5 boxes with 10. It says volume, 24 hours, with a plus in each column. Mr. Stump explained this to me as the county health had explained it to him, that a plus in each column means in each of the tubes they grew fecal coliforms. I had no knowledge prior to this that every test had come out positive.

After reading the water report, Jerry Higgins and I went to see Mr. Sims in his office. Jeff Adams was present. We had gone specifically to talk about the water report we had along with a couple of other issues. Mr. Adams broached the subject before we did. Just as we walked in the door he said something to the effect, I have heard rumors, I might as well ask you, is it true you have taken some water samples? And I told him we had. He asked us what we had found. I told him that they couldn't find any pathogens in the water, there was nothing to point your finger to and say this is what is making you sick, but they had isolated fecal coliforms. As I expected, I sensed a little irritation on his part. He said something to the effect, what does that mean to you? What does that tell us? And I replied, "That shows me we have shit in the water."

Senator HATFIELD. Did you show him the report at that time?

Mr. STUBBLEFIELD. I did not have it in my hand. He asked how we took the samples, and I told him Mr. Higgins had, and we followed instructions of the Klamath Department of Health. He asked if we heated the spigot. I told him we hadn't and did he think it was necessary? A long discussion followed on the right and wrong way to take water samples, and I gathered the impression, he said, "You must have botched the job and contaminated the water samples." I was told this had happened with their own personnel, they had contaminated the samples and therefore did not get true readings sometimes.

Senator HATFIELD. At that point I assume by your statement that you had less than complete respect for the capacity of Mr. Adams?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. Did you have any doubt in your mind as to his judgment on the water samples, the quality, as compared to the report that you had?

Mr. STUBBLEFIELD. Specifically about the report that we had, yes.

Senator HATFIELD. You had no question raised in your mind then as to the possibility Mr. Adams was not fully informed, or did not want to be fully informed, or had no ability to be fully informed? Did you have any of those thoughts in your mind?

Mr. STUBBLEFIELD. The thought I had, he was a little irritated.

Senator HATFIELD. It was a professional jurisdictional matter with him rather than competency?

Mr. STUBBLEFIELD. Yes.

Senator HATFIELD. At that point did you feel you might make this written report and information contained available to Superintendent Sims?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. That did not come into your mind?

Mr. STUBBLEFIELD. At that specific instant?

Senator HATFIELD. At the end of your conversation with Mr. Adams.

Mr. STUBBLEFIELD. I fully expected our conversation at that time to be carried to Mr. Sims by Mr. Adams and Mr. Wiggins.

Senator HATFIELD. But all of these were assumptions that certain automatic forces moved within the hierarchy?

Mr. STUBBLEFIELD. Yes, sir.

Senator HATFIELD. And you therefore had no particular desire to in any way circumvent that hierarchy structure?

Mr. STUBBLEFIELD. I felt we had circumvented about as much we dared to do right there. Our whole purpose was to get somebody working on the problem that was an expert, someone that knew what they were looking for. That was apparently happening.

Senator HATFIELD. At no point you thought about going to the head man? If you were wanting to get some action, and you weren't satisfied with the action in the normal channels and you went so far as to move on an independent court, but at no point along this whole course did you think about going to the head man?

Mr. STUBBLEFIELD. Oh, I am sure we thought about it.

Senator HATFIELD. And the one time you thought about it you decided not do do it?

Mr. STUBBLEFIELD. I was sure the information was getting there. I had no reason to believe my statements would carry more weight than his chief ranger.

Senator HATFIELD. But you had a report from a laboratory.

Mr. STUBBLEFIELD. So did he. He had several.

Senator HATFIELD. But not this one.

Mr. STUBBLEFIELD. No.

Senator HATFIELD. And you didn't have the report he had, you had something different.

Mr. STUBBLEFIELD. Yes, sir.

Senator HATFIELD. But you were not making certain that got into the head man's hands, is that correct?

Mr. STUBBLEFIELD. At this time I had had the report in my hand probably 30 minutes.

Senator HATFIELD. At any time did it ever occur to you about placing this independent report directly into the hands——

Mr. STUBBLEFIELD. Not directly. I assumed we had done so.

Senator HATFIELD. How?

Mr. STUBBLEFIELD. In our talks with the chief ranger.

Senator HATFIELD. That is oral. I am talking about the physical report.

Mr. STUBBLEFIELD. I told Adams I had the report in my office.

Senator HATFIELD. The question is at any time did it occur to you should you place this report into the hands of the superintendent, the written report?

Mr. STUBBLEFIELD. I think we had probably thought about it, probably discussed it when we got the report.

Senator HATFIELD. You said earlier you thought about this when you had the oral report via the telephone, my question is now once you received in your possession the written report did you at any time have a thought, an idea, about placing that information of this written report, the report itself into the hands of the superintendent.

Mr. STUBBLEFIELD. Well, again I say yes, I am sure we did. We talked about it. We decided we were doing that, we were taking the channels. I had every reason to expect it would go up, that Mr. Sims would call me about it. I would take it up and show it to him. I was not trying to hide anything from him.

Senator HATFIELD. I am not implying you were attempting to hide anything. But your assumption was orally and verbally what you said to Mr. A or Mr. B would normally get to Mr. C or Mr. D in the workings of the hierarchy of the Park Department?

Mr. STUBBLEFIELD. Yes, sir.

Senator HATFIELD. And never did you think you should take this evidence you had generated and place it in the hands of the man who was responsible for the whole park? Is your answer yes or no?

Mr. STUBBLEFIELD. Yes; I thought about taking it to Mr. Sims.

Senator HATFIELD. And you decided not to?

Mr. STUBBLEFIELD. No. I had decided to take it to the first place, we will wait and see what happens after that. I had taken it to our liaison.

Let me make a statement here.

Senator HATFIELD. Does the YCC have the same kind of hierarchy attitudes as the Park Service?

Mr. STUBBLEFIELD. I am saying we work with the Park Service, and we have to respect that system, yes.

I would like to make a statement that will maybe help clarify why we acted in such a manner. Early in the first week of camp in discussion with Jim Wiggins—and he told me this in confidence and I apologize to him for breaking his confidence—but in talking about the prior year, 1974, he had advised me to be a little careful this year, that the evaluation I had written and sent through channels of the program was very good, he thought we had a good year, but, however, Mr. Borgman had attached a rider to the evaluation. He had also sent in an evaluation, sent them both through group office, through Mr. Borgman's office. Mr. Borgman had attached a rider to the effect YCC was trying to run the park. I have no idea why he made that statement in 1974; 1975 I would understand, but 1974 I don't know.

Senator HATFIELD. You say this had been an impact on your thinking about pulling back from a direct confrontation with the Superintendent on this particular job?

Mr. STUBBLEFIELD. That is right, sir.

Senator HATFIELD. All right.

Mr. STUBBLEFIELD. In fact, we requested of the Klamath County Health Department when we took the water and stool samples in that our names not be used.

Senator HATFIELD. But you did then go to Dr. Koplan to present this material?

Mr. STUBBLEFIELD. Yes. Sometime in the afternoon Dr. Koplan arrived. Mr. Sims asked if we would assist him in any way we could. I assured him we would. Later that evening, around 5 or 6 in the evening, Dr. Koplan came over. I offered him room and board and our assistance. At that time I showed Dr. Koplan the water sample. Dr. Koplan read it, asked a few questions, and replied to the effect that this water sample did not prove anything, it did not say the water was bad, that is why we were getting sick; however, it led to strong suspicions. He asked us what we were doing about it. I told him we had been boiling water since the 4th. He agreed that was a wise move. As it turned out, boiling the water was not sufficient probably.

On the 8th of July, after discussing with Dr. Koplan about the boiling of the water, he suggested we also use iodine treatment. This was perhaps a little easier than boiling it all. All that day Jerry Higgins instructed all the enrollees there would be no water entering our mouths that wasn't boiled or iodine treated. If that meant eliminating some items that required using water, we would do that.

Dr. Rosenberg arrived the evening of the 8th around 11:30 or 12 o'clock, maybe even the morning of the 9th. There was an informal gathering in our office of the staff and Dr. Koplan. Dr. Rosenberg arrived, exchanged a few greetings and introductions, and Dr. Koplan asked me to show him our water report, which I did. Dr. Rosenberg examined the water report briefly and in a purely off-the-cuff manner replied something to the effect, "You have been drinking pure shit."

Now, that statement has caused Dr. Rosenberg a little embarrassment. In fact, I am sorry I put it in our chronology because I don't think it has any importance now. At the time I thought it did. I would like to emphasize it wasn't a professional statement, it was a statement made in jest. It was in no way a diagnosis.

I do think it is important to clarify—your pursuing this earlier this morning with Mr. Sims, I think we should clarify the difference between the quotes I have down here and the quotes he had. Mr. Sims' report stated Dr. Koplan stated, "You had been drinking pure human waste." My report, while it is a little more crude I think is more apt. There is nothing in the report to indicate it was human waste at all.

Senator HATFIELD. You have the 9th and 10th, would you summarize them, please?

Mr. STUBBLEFIELD. Nothing much happened the 8th and 9th except we worked with the doctors. Doctors from the Public Health Service worked very hard. We helped them, often working late at night. The kids delivered these notices sometimes at 11:30, 12 o'clock at night, and posted them.

On the 10th, evening of the 10th, we held a staff meeting. Present at that staff meeting was all my staff, the park superintendent, Jim Wiggins, the project manager, Dr. Koplan, and Dr. Rosenberg. The subject of this meeting was to decide what we were going to do about camp. I was in favor of sending the kids home, they were still getting

sick, we were not getting the work done, we were not getting any education and no recreation. We decide, in the course of this meeting—Just as it began Mr. Sims was called out, and the meeting coincided with the discovery of the plugged sewer line. So the questions I had were moot at this time, they had discovered the problem. They decided to close camp for a week.

Senator HATFIELD. Thank you very much. In your activity there did you have close contact with the employees of the concessionaire?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. You did not have?

Mr. STUBBLEFIELD. No, sir.

Senator HATFIELD. For the record let's sort of put this into physical relationship, would you, for us?

Mr. STUBBLEFIELD. The concession is of course on the rim of the lake. Our facilities are adjacent to park headquarters, are some 2, 2½ miles down the road.

Senator HATFIELD. About 2½ miles down the road?

Mr. STUBBLEFIELD. I would say 2½, 3 miles down the road.

Senator HATFIELD. Then your contact would be minimal, if at all, with the routine of the concession or the concessionaire, or the concessionaire's employees?

Mr. STUBBLEFIELD. Yes, with the exception of a couple of my staff who had friends.

Senator HATFIELD. Were you aware of any attempt to discourage discussion of this matter among employees of any of these components, the YCC, the Park Service, or the concession?

Mr. STUBBLEFIELD. There were no efforts made toward the YCC. There were no direct efforts on the part of our service that I am aware of. I think there were some feelings not to talk about it. The only direct incident did not involve anybody from the Park Service but did involve the superintendent's wife, she had asked a couple of people not to be talking about water problems at the park headquarters, visitors would be alarmed. The only incidents I know of at the concession are hearsay, I have no direct.

Senator HATFIELD. Thank you very much.

Do either of you gentlemen have anything to add to what Mr. Stubblefield has stated today? Any difference of opinion on anything he stated, or any additional information? Were either of you gentlemen aware of the last question, information that would relate to the last question I asked Mr. Stubblefield?

Mr. HIGGINS. I could elaborate somewhat on an incident that occurred at the lodge about 11:30 p.m. the night of July 10. As Mr. Stubblefield pointed out, we were in close contact with the doctors. We provided them our staff to help them where we could. And we were asked at about 11 o'clock to go up to the Rim and post the signs that were mentioned this morning, the signs stating that the water was not fit for anything but flushing toilets.

Senator HATFIELD. Just let's make sure we have, for the record, the exact one, because we had three signs this morning.

Mr. HIGGINS. Right.

Senator HATFIELD. Are you speaking now of the one addressed "To All Visitors" which indicated—There is one dated July 10, Thursday

evening "To All Visitors" signed by Superintendent Sims, and it has two basic instructions. Then there was another one——

Mr. HIGGINS. What is the one in your left hand?

Senator HATFIELD. This one [indicating]?

Mr. HIGGINS. The two instructions, what were they again? Could you inform me of those instructions?

Senator HATFIELD. This is identified as Thursday evening, July 10, addressed "To All Visitors," signed by the superintendent in which he refers to the water supply serving the facility of Crater Lake has been found to be contaminated with sewage. The water is not fit to drink or to use for any purpose other than flushing toilets. Then he goes down to say the following precautions are to be taken immediately.

Mr. HIGGINS. No, I am talking about the second directive.

Senator HATFIELD. In other words, the one that zeroed in on this particular problem and in a much more serious vein?

Mr. HIGGINS. Yes.

Senator HATFIELD. Thank you for letting me interrupt, but I wanted to make sure we were talking about the same notice.

Mr. HIGGINS. I, along with Gary Mason and some of our enrollees, went to the Rim. It was late at night. The park asked us not to get people up if they were in bed, but if they were up to hand them this directly, and if not, slip it under the door, and also posted in the lodge where it would be seen by visitors in the lodge. I left part of my enrollees at the cabins behind the knickknack shop, then Gary and I went on down to the lodge to post this sign in the lodge.

We decided we should contact Mr. Peyton and get his permission We found him in the bar of the lodge. Also present were Mr. Adams and Don Cowan with the Public Health here in Oregon. As we went in there was a phone conversation going on at the time. Mr. Cowan was talking apparently with Mr. Borgman at the Group office.

We asked Mr. Peyton if he had seen this sign and was aware we were supposed to put it up and to remove the signs on the cardboard sheet that the water was heavily chlorinated and being checked daily. Mr. Peyton was not very cooperative. He argued over the necessity of such a sign. He felt that the sign was misleading and maybe possibly directing blame at him, and he said we should wait until this phone conversation was completed. Upon completion of that phone conversation Don Cowan said Mr. Borgman had agreed to allow us to go through the lodge and to take down the original sign saying the water was heavily chlorinated and put up this new sign. We then did that. We looked for every sink and every place where people might be using the water. We went in all the restrooms, removed the signs and replaced them with this new directive. When we got back to the lobby Mr. Peyton was arguing with Mr. Cowan on the validity of the signs. Also present were two other rangers. And before leaving the lodge we were ordered by Mr. Peyton to remove the signs we had just put up and replace it with the cardboard sign we had removed, the cardboard sign saying the water was okay. It was at that time Mr. Cowan advised Mr. Peyton of the seriousness of such an act, and we left the lodge area.

We heard by rumor Mr. Peyton went ahead on his own authority and removed the signs and replaced the cardboard signs, but I could not verify that at all.

Mr. STUMP. You asked if any of the employees were ever put in the position of being intimidated. I have some friends that worked up at the Rim and they were intimidated. Not only that, but during other times when I had been up there to take water tests in the kitchen and whatnot like this, there were violently ill people working in the kitchen and they were afraid they would lose their job. They had more or less been told, though not directly by a supervisor, if they weren't standing there working, they were going to be fired.

Senator HATFIELD. How do you know they were ill?

Mr. STUMP. They were telling me, and it was very evident. They were weak to the point they could hardly stand. They felt intimidated. Even though they had diarrhea and vomiting, if they weren't standing there making salads, they would be sent home. There is other reports that has been brought up, they were also told about people that worked in the shop and whatnot.

Senator HATFIELD. Did they specifically say who told them this? Was this a direct statement or was this what they were interpreting as to what would happen?

Mr. STUMP. I imagine to a large degree no one in their hierarchy said don't do this or don't do that, but it was evident to anyone who was there that if they did talk about it or if they weren't working. I don't think, you know—if it wasn't said, it came across like that, and if it did come across like that, perhaps it should have been put down, which it wasn't.

Senator HATFIELD. But no one made any direct statement to you they had been explicitly and implicitly informed if they did not continue working in the situation they were in, with knowledge to their employer they were ill, they would lose their job? No direct, explicit language was used?

Mr. STUMP. People that were working told me that. However, they never told me who told them.

Senator HATFIELD. They would lose their job if they did not continue working?

Mr. STUMP. Yes, sir.

Senator HATFIELD. And that statement was made to them by someone who was in the hierarchy of their employment?

Mr. STUMP. To my knowledge.

Senator HATFIELD. Do you know if that statement was made to them by someone who was knowledgeable they were ill at the time they made the statement?

Mr. STUMP. You couldn't look at these people and not know they were ill.

Senator HATFIELD. But no one said, "Sir, I am ill, I am vomiting, I am sick, I do not feel like working," and that person said to them, "You stay on the job or you will lose your job"? Was it that type situation?

Mr. STUMP. I doubt if it was that blatant, but I think it was, "OK, you're assigned to go to work at 7:30 in the morning, be there or else."

Senator HATFIELD. Thank you all.

[The chronology referred to follows:]

CHRONOLOGY OF YCC INVOLVEMENT IN CRATER LAKE EPIDEMIC

Saturday 21 June

Ed and Judy Weekly, cooks, arrive.

Monday 23 June

7 staff and 3 youth leaders arrive. They are informed that "flu" is going around.

Tuesday 24 June

P.M.

First staff member, Laura Lampe, becomes ill.

Wednesday 25 June

A.M.

Youth leaders Paul Czernerys and Linna Goetsch become ill.

At Defensive Driving class many Park personnel present are ill. and the YCC staff hears reports of rampant illness, especially among the naturalists.

P.M.

3 more staff become ill: Marie Magleby, Jerry Higgins, and Bruce Stubblefield.

Jack Stump is told by Glen Happle (?) at the rim: "The bug is really getting us up here, too. Use Kaopectate."

Thursday 26 June

A.M.

Jack Stump reports that the Defensive Driving class is decimated.

1 more staff, Jack Stump, has light diarrhea and cramps.

Thursday 26 June

P.M.

YCC staff meeting discusses illness. There is unanimous agreement that the illness does not resemble flu because of the: (1) abrupt onset of symptoms; (2) rapid spread of infection; (3) near 100% attack rate. In addition, there is no common source of ingestion other than water.

Stubblefield asks Jim Wiggins about water quality. Wiggins responds that the water is tested frequently. Stubblefield suggests the County Health Department be asked to come up. Wiggins responds that they have no jurisdiction, and that any problems in the Park would have to be handled by the U.S. Public Health.

Ed Weekly, cook, becomes ill.

Friday 27 June

A.M.

Previously ill staff appear to be on the mend.

4 staff and 2 youth leaders return to their homes for the weekend.

Judy Weekly, cook, becomes ill.

Saturday 28 June

Nothing significant.

Sunday 29 June

A.M.

4 staff suffer relapse.

P.M.

25 enrollees arrive.

Staff meeting: decision to take water sample as soon as possible.

Monday 30 June

A.M.

In Wiggins' Higgins and Wiggins discuss the illness and the possibility of the YCC staff taking water samples. Higgins' request for samples is initially approved by Wiggins and confirmed by Sims. Immediately after the confirmation; and, while still in the presence of Jerry Higgins, Wiggins receives a telephone call. Upon completion of the telephone conversation Wiggins replies, "Don't bother, the water has already been tested." Despite the denial of his request, Higgins, acting on his own authority as Camp Health and Safety Officer, decides to proceed with a water test.

Jack Stump takes ill youth leader, Linda Goetsch, home. He picks up water sample bottles in Klamath Falls and explains situation to Dave Bussen at the County Health.

P.M.

Approximately 7 more enrollees become ill.

Tuesday 1 July

A.M.

Stump obtains water samples per directions, the first sample from the upstairs ranger dorm, and the second sample from the mess hall kitchen sink. At 7:30 Stump leaves with the water samples for the County Health Department in Klamath Falls. Dave Bussen, Health Department, questions Stump about sickness, food operations in Park, etc. The Health Department expresses interest in the disease and requests fecal samples. Stump obtains 7 sample bottles. Stump talks to Don Carr, water analyzer, who asks more questions. Carr suggests the possibility of some form of amoebic disease. He also reaffirms the need for fecal samples. Stump is shown current files on Munson Springs bacteria count: many are positive except the last one (taken by one of the maintenance men). Various complaints are also reviewed. Dr. Boge prescribes camp pills and Lomotil diarrhea; he writes prescription to the staff and enrollees in care of Stump to be administered as prescribed.

P.M.

Approximately 22 enrollees are ill.

4 fecal samples are collected from the ill and taken to the County Health to be shipped to Salem for analysis. Stump is told the reports will be in on Friday. Dave Bussen of the County Health calls Denver Public Health Service (National Parks) and State of Oregon Public Health in Stump's presence. Bussen tells Stump to expect a team of experts by Friday 4 July to investigate Park health problems.

Wednesday 2 July

Work crews are formed as best as possible. 5 to 15 are ill each day, to Thursday.

Thursday 3 July

Sims tells Stubblefield of team arriving on 4th to investigate illnesses, and he requests any sick to be on hand.

Friday 4 July

All appear on the mend. A few still have diarrhea.

Plans call for a three-day camp out are cancelled due to staff's experience with the recurring symptoms. Decision is made to go to Bend for holiday festivities. Staff feels trip to Bend necessary to boost morale.

Stubblefield talks to Sims. Since no ill enrollees at present, the decision is made not to wait for Dr. Googins.

Stubblefield phones Dave Bussen of the County Health in reference to the water and stool samples. Bussen reports more tests are needed for the water and stools (Salmonella, Shigella). The water does not conform, and fecal coliforms are present. The decision is made to boil all drinking water.

Saturday 5 July

Nothing significant.

Sunday 6 July

More relapse (5–6).

Monday 7 July

Stubblefield phones Bussen: No pathogens in water, no report on stools, yet. Receive water report from Klamath Basin Lab addressed to Jack Stump.

Higgins and Stubblefield talk with Wiggins and Jeff Adams in Wiggins' office. Subject: water sample taken by YCC. The dialogue between Stubblefield and Adams goes something like this:

Adams: I've heard rumors, and I may as well as you two—I've heard YCC took some water samples.

Stubblefield: That's right, we did.

Adams: How did they come out?

Stubblefield: The water didn't meet standards. It contains fecal coliforms. They couldn't find any pathogens, but you've got shit in your water.

Adams: How did you take the samples?

Stubblefield: Jack Stump took them following the directions included by the County Health Department.

Adams: Did you flame the spigot?

The discussion included proper methods for taking water samples and the danger of contamination.

Dr. Jeff Koplan arrives and is shown the water report by Stubblefield. Koplan says the report makes the water suspect, and he supports YCC decision to boil water. YCC offers staff and enrollee assistance, to share facilities, and to provide meals.

YCC staff assists Dr. Koplan with questionnaire.

Tuesday 8 July

More relapses.

Higgins tells enrollees that all water entering the mouth must be boiled or treated with iodine. He instructs cooks not to prepare food with untreated water, even if it means elimination of a food item.

Dr. Mark Rosenberg arrives and is shown YCC water report. He remarks, "You've been drinking pure shit."

Staff assists Drs. Koplan and Rosenberg in survey.

Wednesday 9 July

Titus, Barnes, Cowan arrive. Staff assists them.

Thursday 10 July

Staff meeting: Decision made to close camp one week. (See enclosed letter.)

CRATER LAKE, OREG.,
July 11, 1975.

TO WHOM IT MAY CONCERN: As the result of a conference between the YCC Staff, Park Superintendent Richard Sims, Project Manager Jim Wiggins, and Dr.'s Koplan and M. Rosenberg, U.S. Public Health Service, at 7:30 p.m. July 10, 1975, it was decided that due to the outbreak of gastroenteritis, the camp operations should be suspended from July 12, 1975 to July 20, 1975 for the following reasons:

(1) to rest and recuperate due to the fact that all of the enrollees and staff have been affected repeatedly with the gastroenteritis since their arrival,

(2) to reduce the possibility of re-infection from person-to-person,

(3) to allow park personnel time to analyze and attempt to rectify the sewage contaminated water system,

(4) to boost morale and increase YCC work productivity, and

(5) to ease the difficult situation of operating camp with the present sewage contaminated water system.

Sincerely yours,

BRUCE STUBBLEFIELD,
Camp Director.

[Thereupon a short recess was taken.]

Senator HATFIELD. Drs. Rosenberg and Gangarosa, I have your full printed statements and we will place these full statements in the record as you have presented them to us. But I would like to now follow a little different precedent, or procedure rather, and go directly into the sequence of involvement, first to Dr. Rosenberg then come back to you, Dr. Gangarosa.

Dr. Rosenberg, according to my information you arrived on July 8?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. I believe Dr. Koplan, who was your teammate, arrived the preceding day?

Dr. ROSENBERG. Correct.

Senator HATFIELD. On July 7. On your arrival you were presented, I believe, at some time, Doctor, that day a report from the laboratory in Klamath Falls, signed by Mr. Carr, concerning the water sample that they had tested. I believe that Mr. Stubblefield of the YCC made that available to you, is that correct?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. And you read that report, and I gather in one way or another you expressed yourself in such a way as to indicate concern as to what the report said, is this correct?

Dr. ROSENBERG. That is correct, but if I could elaborate on that just a bit.

Senator HATFIELD. Please.

Dr. ROSENBERG. I think a great deal of confusion has arisen over that report, and I was initially confused as well. The report gave the results of two tests that were performed on the water samples taken by Mr. Stubblefield. The two tests that were done on that water sample, or the combined samples, were first of all a test for total coliforms. That is done by taking 5 milliliter aliquots of water, placing each of those aliquots in the test tube, and incubating them at the proper temperature, and observing the results of that incubation 24 and 48 hours afterward. That test showed at 24 hours there was gas present in each tube, so each tube did, in fact, contain coliform organisms. Now, from those test being positive, the five tubes being positive, one can conclude, using what is called a most probable number estimate, that that water sample submitted, or the combined sample, had at least 23 coliform organisms per 100 milliliters.

Senator HATFIELD. Translate that for me in terms of danger to human consumption.

Dr. ROSENBERG. Coliform organisms themselves are not necessarily harmful to people who ingest them. However, they're often used as an indicator of contamination of water supply by fecal waste. There are many dangers in the overinterpretation of those results. And what they can show is possible contamination by fecal waste. Also, animal waste may be difficult to distinguish.

Let me add one other point before I go to the full interpretation of the sample, if I may, and that is the other test that was done on those samples was a total plate count. That is done by taking a very small sample of water and spreading it out on a plate that has a gelatin base, and then incubated. That plate is examined later and the total colonies on the plate counted. These are then saying that test showed there were 667 organisms per milliliter. These organisms were then identified by either of those two tests.

Now, my confusion arose because I was told I believe when I walked in that the report showed 665 or 667 fecal coliforms per milliliter. My first reaction was probably based on being told that. I think very shortly afterward, or maybe at the same time I was looking at the report, I noticed that while it said fecal coliforms present, the 667 really referred to the total plate count.

Now, as total plate counts go, that is not astronomically high. In fact, many water sources throughout the United States would occasionally have total plate count that go that high. If, in fact, that would have referred to fecal coliforms, that would be very high.

Senator HATFIELD. The 23 figure you used related to coliforms?

Dr. ROSENBERG. Right.

Senator HATFIELD. Now, what kind of a level is that?

Dr. ROSENBERG. That is unacceptable for finished water or treated water in a water supply.

Senator HATFIELD. What is the cutoff level, 20, 19, 15? How much higher was it than the acceptable level?

Dr. ROSENBERG. There have been many sets of standards promulgated, and the standards for the water supply depend on what the source of that water supply is. So that a big city which takes its water directly from the Mississippi River has one set of standards for its water, whereas another city which may get its water from what is thought to be an uncontaminated spring will have a different standard.

Senator HATFIELD. Are those political standards or health standards?

Dr. ROSENBERG. Those are health standards set by a political body.

Senator HATFIELD. Could we exorcise the political aspect for a moment and tell me what is the health standard that a professional in your work would accept as the most accurate standard for health? I suppose you're going to tell me as you get immunities built up under certain higher——

Dr. ROSENBERG. I think I should say one cannot judge a water supply on the basis of one sample. Those results, when I read them and saw what the tests done actually were, I felt if they had been properly collected, they indicated the source from which they had been collected was probably contaminated and unacceptable for drinking water. Now, that did not indicate to me that the entire water supply was for the park system contaminated, nor if the water was contaminated it was, in fact, the source of the illness.

Senator HATFIELD. What is the cutoff line on the scale you use relating to the fecal coliforms for Crater Lake National Park's source of water?

Dr. ROSENBERG. I would say any fecal coliforms present, oh, probably the standard used is greater than one to 50 milliliters.

Senator HATFIELD. Would be unacceptable? And this was 23?

Dr. ROSENBERG. No; that was 23, an estimated minimum of 23 total coliforms. Now, total coliforms are a larger category, and within that is the category of fecal coliforms. They're really somewhat arbitrary definitions, and they relate to how the test is done. If it is incubated at one temperature, the test is interpreted as showing total coliforms, at a higher temperature that somewhat more closely resembles the temperature of warmblooded animals, then it is indicated as fecal coliforms.

Senator HATFIELD. I appreciate all this information, it is very helpful, but let's get back to what I am trying to understand, and that is on the number scale you read that used the 23 figure, is that high, medium, low? At what point does it become dangerous, or when would you become alarmed? At what figure on that would it alarm you? Did 23 alarm you? What is the cutoff, 16, 14? Do you see what I am trying to get at?

Dr. ROSENBERG. Yes; I think you're asking was I terribly alarmed by that report?

Senator HATFIELD. Well, that is a two-part question, but I would like to know the technical part of the question which has to do with at what point on that scale where you use the figure 23 does it move from acceptable to unacceptable or to dangerous, or whatever figures you use.

Dr. ROSENBERG. There is no indication on that test how many fecal coliforms were present, if any at all. In further subsequent conversation with the water testing laboratory that performed the test, I was not able to find any test for fecal coliforms having been performed.

The 23 comes from looking on the table which tells you. If you look down the columns, you see how many tubes you tested, then the rows say how many of those tubes had a plus. So we look, five tubes tested, five tubes positive, and that would show you the number 23.

Senator HATFIELD. Now you have answered my question. Thank you. What was your reaction when you read this after you understood what you were reading? Not from what had been verbally explained to you, but when you read it.

Dr. ROSENBERG. I thought the water from which this had been obtained, if it had been properly obtained, was unfit for human consumption.

Senator HATFIELD. The next day then you and Dr. Koplan issued some instructions to post signs, is that correct?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. And that was to warn people that the water might be contaminated and they should boil or treat the water, and I believe that was written by you or Dr. Koplan, or the two of you, and signed by Mr. Sims, and dated July 10, which is addressed "To All Visitors," is that correct?

Dr. ROSENBERG. We wrote that notice.

Senator HATFIELD. Yes.

Dr. ROSENBERG. And advised Mr. Sims that be posted.

Senator HATFIELD. And that was based on this report from Klamath Falls, that action?

Dr. ROSENBERG. No; this report from Klamath Falls went into the decision to advise that, but was not the complete basis for that.

Senator HATFIELD. What was the basis for this notice?

Dr. ROSENBERG. If I could suggest at this point, I think it is a very complicated area and I think Dr. Gangarosa's statement might clarify the basis, and it gives an overview of the logic we tried to use in proceeding.

Senator HATFIELD. I appreciate that, and I am going to hear from Dr. Gangarosa completely. But let me ask you this, had you discussed this matter with Dr. Gangarosa prior to making the determination to have such signs posted?

Dr. ROSENBERG. No.

Senator HATFIELD. In other words, you and Dr. Koplan made that determination?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. That is what I want to hear from you, on what basis did you and Dr. Koplan make that determination? We will get Dr. Gangarosa in at the sequence where he came into the picture.

Dr. ROSENBERG. We felt water was a suspect vehicle of transmission of disease. The reasons we had for believing that were that there was this report of an unsatisfactory water sample. In addition, the illness seemed to be very widespread, and water was the one thing we believed at that time to be shared in common by all the people who had become ill. In addition, we believed that the water, at least in part of the park, was inadequately chlorinated and would be a possible mode of transmission of the illness.

Senator HATFIELD. All right. Now, did you have any discussion with Mr. Peyton? Were you with Dr. Koplan? Let's put it to say were you with Dr. Koplan in Mr. Peyton's presence when he discussed the matter with Mr. Peyton? Did you discuss this matter with Mr. Peyton, or did Dr. Koplan, or did either or both of you together?

Dr. ROSENBERG. Yes, sir, we met with Mr. Peyton on the morning of the 9th.

Senator HATFIELD. Tell us what that discussion was.

Dr. ROSENBERG. We addressed ourselves first, I believe, to a discussion about the necessity for making sure that no ill food handlers continued to work in any food handling area or capacity. We also told him that we were distributing this notice to visitors on entry to the park and were distributing this notice throughout the park.

Senator HATFIELD. What was his reaction to that?

Dr. ROSENBERG. At that point he was agreeable. He made no objection to those. And he assured us that he would cooperate in trying to have all ill food handlers removed from any food handling capacity.

Senator HATFIELD. I believe the distribution to which you just referred included actually posting such signs within the lodge, is this correct?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Did you see those signs posted when you were having this discussion with Mr. Peyton within the lodge?

Dr. ROSENBERG. No, sir, I did not see those signs posted. We did not have the notice with us at that time, and we did not have the exact wording to tell Mr. Peyton. He became informed of that wording through a telephone call.

Senator HATFIELD. Did you then, following the time that those notices were printed and distributed, did you visit the lodge, or did you see at any time such signs as you had written posted in the lodge?

Dr. ROSENBERG. No; I did not visit the lodge that day nor do I specifically remember seeing those signs posted at the lodge.

Senator HATFIELD. Are you aware of any requests made by Mr. Peyton to you or to Dr. Koplan that such signs, once they were posted, should be taken down and replaced with this sign that indicates, "This water has been adequately chlorinated and is tested daily by the U.S. Public Health Service"?

Dr. ROSENBERG. No, sir, I do not remember such a request. But we did discuss the posting of a notice to persons in the rim area which would say that water in that area, specifically at the dormitory and lodge was adequately chlorinated and believed safe to drink. We did not discuss the specific wording on the sign.

Senator HATFIELD. What led you to that conclusion the water in those locations had been adequately chlorinated?

Dr. ROSENBERG. We had reports of chlorine levels in that water on several different readings. The levels were all over 0.5 part per million.

We believed at that time, based on water treatment standards, that was an adequate level to insure the safety.

Senator HATFIELD. Had you at that time observed the places from which the sample had been taken for the Klamath Basin Lab's report you had read on the day of your arrival?

Dr. ROSENBERG. Yes, sir, I had seen that report.

Senator HATFIELD. Yes; but were you aware from which places those samples had been taken, where those samples had been taken?

Dr. ROSENBERG. The ones that were reported on?

Senator HATFIELD. Yes.

Dr. ROSENBERG. Yes, sir, I was, and this may speak to your previous question. Water of a quality that could still be met by those tested samples is still adequately treated, according to recommended procedures, by chlorination alone, so that we did not believe even on the basis of that sample that chlorination would be ineffective in disinfecting that water.

Senator HATFIELD. What would be the date of those chlorination reports that you saw?

Dr. ROSENBERG. The water samples were tested for the chlorine levels on the 7th, 8th, and 9th.

Senator HATFIELD. Were any of those levels of chlorination tests taken from the same source that the water sample had been taken that led to this report from the Klamath Basin?

Dr. ROSENBERG. I presume that they would include the YCC dorm and messhall. There was a reading taken on the evening of the 8th at the YCC dorm. There was another reading on the 8th taken at Steele Circle, which is in the same water distribution area as the samples reported. However, we had also reviewed a diagram of the water system, water distribution system, and we believed at that time that the physical layout of the chlorine injector system was such that water going to the rim could be adequately chlorinated in the face of inadequately chlorinated water being delivered to the lodge area.

Senator HATFIELD. What is the time needed to counteract the kind of report indicated by this Klamath Water Basin test? Would the chlorination correct these problems that were indicated in this report?

Dr. ROSENBERG. I think chlorination at the recommended levels with a contact time of 3 hours would be adequate to disinfect.

Senator HATFIELD. Did you have a chlorination level test on the 7th or the 8th from the YCC area?

Dr. ROSENBERG. Yes, sir, on the 8th we had a reading of 0 parts per million from the YCC dorm.

Senator HATFIELD. Zero parts?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Interpolate that reading.

Dr. ROSENBERG. No detectable residual chlorine in that water.

Senator HATFIELD. Is that good or bad?

Dr. ROSENREBG. That does not disinfect the water, chlorine at that level.

Senator HATFIELD. So there is no chlorine residual in the water supply as used by the YCC people, is that what you're saying?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. On the 8th?

Dr. ROSENBERG. Correct.

Senator HATFIELD. What would that indicate? Had there been chlorination of that water at some previous time, could there have been chlorination that would provide this kind of a reading at this date? Could they have chlorinated the water the previous day and that reading would show up at this time, or would it have had to be 2 days before or 3 days before you would have a zero residual reading? I am trying to find out when they had last, if at all, chlorinated the water at YCC.

Dr. ROSENBERG. I have no way of knowing that.

Senator HATFIELD. Is that where this test came from? Is that where the sample came from?

[No answer.]

Senator HATFIELD. Dr. Rosenberg, I believe that is where the sample was taken upon which this test was made, wasn't it, was from the YCC area?

Dr. ROSENBERG. That is correct, sir. Now, we believe that the water distribution system was one you could divide into two parts. One part was water going to the headquarters area, including the YCC area, and that is where those samples were taken from. Another part was water going to the Rim area. We believe water going to the Rim area was adequately chlorinated. We believe there was essentially no chlorine going in the water to the headquarters area.

Senator HATFIELD. This would cause you concern when you saw that chlorination report on the YCC sample?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Because that is the area from which the sample had been taken from which you read the report before? What did you do about it at that time when you found there was no residual chlorine present in the sample from the YCC?

Dr. ROSENBERG. YCC persons had been advised, as had all visitors and personnel in the park, early on the morning of the 9th to boil or adequately treat all water that they would use for drinking, brushing teeth, et cetera.

Senator HATFIELD. I believe you told me if chlorination is used it takes about 3 hours to take effect to purify whatever it can purify, is that right?

Dr. ROSENBERG. Given the recommended levels of chlorination for treating water in public water supplies, that is correct, the contact time.

Senator HATFIELD. When you had zero chlorination at the very source, which is the source from which the sample had been taken showing the fecal coliforms, et cetera, what did you do about alerting someone or instructing someone to get some chlorination down there?

Dr. ROSENBERG. We asked Mr. Adams to have the pumphouse area and reservoir area excavated from the approximately 6 feet of snow that was covering the area so that we could see where the chlorine injector was actually injecting the chlorine, and so he could take steps to set up a second chlorine injector to adequately insure the water going to the headquarters area. That was the morning of the 9th.

Senator HATFIELD. When was the next sample taken on chlorine?

Dr. ROSENBERG. There was another set of measurements taken in the afternoon of the 9th.

Senator HATFIELD. What did it show at the YCC source?

Dr. ROSENBERG. No detectable chlorine.

Senator HATFIELD. And there had been no chlorine in the meantime introduced at all?

Dr. ROSENBERG. I should say one reading did show 1.5 parts per million at the YCC dorm on the morning of July 9.

Senator HATFIELD. Indicating chlorine had been introduced since the previous test?

Dr. ROSENBERG. Indicating that whereas in the previous test the reading was 0, in this test it was 0.5.

Senator HATFIELD. Well, I would draw the conclusion when you had detectable chlorine in the second test and not previously it had to be introduced physically after the first test.

Dr. ROSENBERG. One would conclude that or there is some inaccuracy or discrepancy in the testing procedure.

Senator HATFIELD. You did not have knowledge of the specific introduction of chlorine between the two tests?

Dr. ROSENBERG. That is correct, sir, and that is part of the reason why we were taking multiple samples, at least twice a day.

Senator HATFIELD. What was the reaction of Superintendent Sims when you informed him of the recommendation to post these notices and so forth? What was his reaction at that time?

Dr. ROSENBERG. I don't recall his complete reaction.

Senator HATFIELD. You did inform him?

Dr. ROSENBERG. Yes, sir, we did, and he agreed that that would be a good measure to take and assisted us in carrying out that measure.

Senator HATFIELD. Now, you and Dr. Koplan then telephoned at one point to Dr. Gangarosa to recommend the closing of the Park, would you tell me why you came to that particular conclusion?

Dr. ROSENBERG. To clarify things, on July 10, in the morning, we spoke with Dr. Gangarosa and raised the question of closing the park's eating facilities and the lodge. We did not at that time seriously consider closing the park itself, nor did we request Dr. Gangarosa to advise that the park be closed.

Senator HATFIELD. But only certain parts of the park?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Including the lodge and the——

Dr. ROSENBERG. And the eating facilities, public eating facilities at the Rim area.

Senator HATFIELD. What was the criteria or what was the input that brought you to that recommendation?

Dr. ROSENBERG. We felt that there was some evidence that the illness was ongoing. We did not know the mode of tranmission for certain at that time, but we believed that some illness was being transmitted by, was potentially being transmitted by ill food handlers who were still working. We believed that the attack rate had been very high in the park, 90 percent or greater, and it would be very difficult to really insure that no ill food handlers were indeed working.

Senator HATFIELD. You came to that conclusion based on a meeting you had up at the lodge——

Dr. ROSENBERG. On the 9th, that is correct.

Senator HATFIELD. Would you like to extirpate from your statement the policy you made that brought you to this conclusion?

Dr. ROSENBERG. The evening of July 9, Dr. Koplan and myself distributed a questionnaire to employees at the Rim area. There were approximately 80 Rim area personnel present at that meeting. We explained the nature of our investigation and answered questions about medical aspects of the illness. At the same time we requested all persons there to complete the questionnaire. We also asked persons to contribute a serum sample and a rectal swab. We did take a poll by a show of hands. We asked first how many persons present had been ill, and approximately 75 hands were raised. We then asked how many persons were still ill, and about 50 hands were raised. We then asked how many persons were in food service areas. About 30 hands were raised. And finally, how many of those persons were still ill and working. Again about 30 hands were raised. We then stressed the importance of making sure that persons who were ill, who still had any symptoms whatsoever, did not continue to work in that capacity.

Senator HATFIELD. And did they comply with the medical instruction?

Dr. ROSENBERG. I can't say for sure whether those people to whom we addressed that complied or not.

Senator HATFIELD. Were the employers or representatives of the employers present at the time you held this meeting and made this survey?

Dr. ROSENBERG. Yes; they were present.

Senator HATFIELD. Then I believe on page 5 you say you went back after this initial meeting to inspect the working area in the cafeteria kitchen, service line, and central storeroom area, correct?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. And of the six persons interviewed and working, five still had diarrhea?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Would that be considered then in direct violation of what your instruction had been on the evening of the 9th?

Dr. ROSENBERG. As to persons who we interviewed at that time, had been present at the meeting, yes, sir, it would be. I don't know if those specific people were there and those specific people continued to work in violation.

Senator HATFIELD. Dr. Rosenberg, who was responsible for the administration of that concession that had these various food handling facilities, was it the employees only or did it include the employers?

Dr. ROSENBERG. It included the employers.

Senator HATFIELD. And the employers were so informed on the evening of July 9? This instruction you gave to both the food handlers, as I understand your statement, and the employers, and they were physically present and heard these instructions?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Who was physically present for the employer?

Dr. ROSENBERG. To the best of my recollection Mrs. Peyton was present, I believe Mr. Peyton was present, I believe Mr. Happle was present.

Senator HATFIELD. To clarify the record, in your statement, "At a meeting with Mr. Ralph Peyton, President of the Lodge and park

concessions, Drs. Koplan and Rosenberg explained that food handlers who still had gastrointestinal symptoms should not be allowed to work in any food handling or food service area." That is correct, is it?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. So there is no question but what the employers, the concessionaire or his representatives were present at a meeting in which they were given specific instructions to remove food handlers who had this kind of a malady?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Then you went back following that meeting and those instructions, and you found that five persons out of six interviewed working in the cafeteria kitchen, service line, central storeroom, still had diarrhea?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Diarrhea is in violation of your instructions because that is part of gastronintestinal symptoms, is that right? That is one of the gastronintestinal symptoms?

Dr. ROSENBERG. That is right, sir.

Senator HATFIELD. We had another name for it in the Navy. Then this conversation you had with Dr. Gangarosa——

Dr. ROSENBERG. I might add if I could one further point there. After we completed our inspection of the kitchen, one of the employees we had interviewed, who still had diarrhea, came out from the cafeteria area and over to me in the souvenir area, and told me that she and the others working with her were not working because they wanted to, but because their direct supervisor had told them that they would lose their jobs if they did not show up. She also said that the chef, the cook in the cafeteria, was working or had been working while he was still ill, that he had a pail that he kept by the stove and while he was working when he had to vomit he vomited into that pail in the kitchen.

Senator HATFIELD. Did you see the pail at the time? Was this happening at the time you were there?

Dr. ROSENBERG. No, sir.

Senator HATFIELD. This was an account related to you?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. All right, you and Dr. Koplan then got on the phone and you had—I know there were previous phone calls, but on this particular phone conversation I want to bid in on is the one in which you and Dr. Koplan recommended closing of certain facilities in the park to Dr. Gangarosa. What was Dr. Gangarosa's reaction?

Dr. ROSENBERG. Dr. Gangarosa felt that we did not have enough evidence to warrant the closure of those facilities at that time. He felt that we needed some additional source of evidence. Specifically, he indicated we needed evidence which would indicate first whether visitors who drank water only in the Rim area on July 7 and 8 when chlorine levels were known to be adequate had become ill; second, whether a statistically significant difference in attack rates could be demonstrated by the water drinkers and nondrinkers in a statistically valid sample; and finally——

Senator HATFIELD. Excuse me. At that point was he familiar with the call Dr. Koplan had made, I think he called Mrs. Kay Yarabinec

who is a registered nurse consultant with the Oregon Health Division, and she had reported there had been a tour bus enter the park and 14 or 15 persons in the tour bus that had stayed overnight at the Crater Lake Lodge developed gastrointestinal symptoms, and the single person who had not become ill was the only person who had not drunk water in the park? Was this related to Dr. Gangarosa at the time?

Dr. ROSENBERG. Yes, sir.

Senator HATFIELD. But he did not consider this a sufficient test to meet the criteria, he was telling you now he wanted——

Dr. ROSENBERG. Additional evidence. I believe that is correct, sir.

Senator HATFIELD. So what else did he want?

Dr. ROSENBERG. Finally he raised the question if either the food—service areas or the park were closed, what would be the criteria for reopening the facilities.

Senator HATFIELD. For reopening?

Dr. ROSENBERG. Presumably at some point in the future those facilities would be reopened.

Senator HATFIELD. Did you give him the statistical data on this number of people who had raised their hands on your survey?

Dr. ROSENBERG. Yes, sir.

Senator HATFIELD. Did you give him the information when you returned the next day that five out of the six interviewed were still with such symptoms?

Dr. ROSENBERG. That survey had not yet been made.

Senator HATFIELD. That came later in the morning?

Dr. ROSENBERG. Dr. Gangarosa believed that our speaking to the people the night before and stressing to them the importance of not working when they had any symptoms whatsoever could have a significant effect, and that they would probably not be working the next day. We found——

Senator HATFIELD. Dr. Rosenberg, if he had that kind of conclusion—then I will direct this question to you, Dr. Gangarosa. You in effect had closed the facilities if you had that many people raising their hands out of the total employment? Approximately 70 hands were raised on the question of how many persons had been ill; how many were still ill, approximately 50 hands were raised. Now, if you're going to say to me that Dr. Gangarosa had instructed you if they had followed your instruction of not permitting those people to work who had this kind of a symptom, that it wasn't necessary to close the facility, I would think any reasonable man would understand if you're going to lose 50 of your employees in a facility of that size, that you have pretty well closed it, whether by illness or any other method.

Dr. ROSENBERG. I think that would depend on the total number of employees one had. We did not know how many employees were represented by the attendance at the meeting.

Senator HATFIELD. How many employees were there? There were how many?

Dr. ROSENBERG. At the meeting? I think there were about 80 at the meeting, but we did not know if that was a representative sample. There might have been a strong bias and those that were sick chose to come to the meeting to hear something about it.

Senator HATFIELD. And 50 of the people at the meeting out of 80 raised their hands they were still ill, 75 out of 80 saying they had been

ill, and you had some question as to whether or not this was representative, or Dr. Gangarosa had a question in his mind?

Dr. ROSENBERG. I had a question as to those attending the meeting—I thought more of those attending the meeting had been ill than those people not attending the meeting.

Senator HATFIELD. So Dr. Gangarosa then did not accept your recommendation to close the facilities at the park because there was not sufficient evidence to merit this kind of action, is this correct?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Did you argue?

Dr. ROSENBERG. I think I put forward my opinion that I believed that there was adequate evidence at that time to justify those measures, but I relied on his greater experience and his judgment.

Senator HATFIELD. And his geographic separation from the scene of the action?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Giving him more objectivity, thus less emotional involvement?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Less ability to make a judgment too perhaps?

Dr. ROSENBERG. I can't say that.

Senator HATFIELD. It is an unfair question, I will strike that.

So you failed in this particular recommendation. What did you do about going back to Superintendent Sims, did you go back and report this to him, this recommendation you had made to your superior about closing certain facilities in the park? Did you urge upon Superintendent Sims to urge this through his superiors?

Dr. ROSENBERG. No, sir, I did not.

Senator HATFIELD. You dropped the issue at that point?

Dr. ROSENBERG. No, sir, I did not drop the issue.

Senator HATFIELD. On the question of closing.

Dr. ROSENBERG. I did not urge closing on Mr. Sims, but I did not close the issue.

Senator HATFIELD. What did you do next in closing the facilities at the park?

Dr. ROSENBERG. In speaking with Dr. Gangarosa we were requested to compile data first to show people were still getting ill at the park. He felt that the data we had assembled showed that many people who worked at the park had become ill, but it was no conclusive proof that the illness was still ongoing. We set about to gather that evidence of the sort I mentioned before.

To clarify some things that were said earlier as well if I could for the record, I believe the meeting Dr. Koplan and I had with Mr. Sims on the morning of the 10th was not to suggest that we believed the park should be closed. Before we would make a recommendation to our superiors at CDC that the park ought to be closed, we wanted to find out first how a decision like that would be carried out, and we wanted to find out Mr. Sims' reaction to such a suggestion should it be forthcoming. However, it was not forthcoming at that time in the morning, at our early conversation with him.

Senator HATFIELD. What did you feel after you went back up there and found five of the six interviewees you had interviewed were sick? Did you feel there was a new dimension to this, that you had not had

your instructions complied with? Did you go back to Mr. Sims or did you go to Mr. Peyton?

Dr. ROSENBERG. We did work immediately at that time on getting those ill people out.

Senator HATFIELD. How?

Dr. ROSENBERG. We did meet. I believe Mr. Ryan Gilmore was there, and he was, I believe, the direct supervisor of those people working in the cafeteria at that time. We told him people that were not ill would have to be substituted for those persons that were ill and working immediately, and that if certain food handling areas could not be staffed with completely well persons, then those areas would have to be closed down. I believe arrangements were made at that time to staff the cafeteria with persons who were not ill, and to close some of the other food serving areas.

Senator HATFIELD. These were made not to Mr. Peyton but to Mr. Gilmore?

Dr. ROSENBERG. We spoke about this to Mrs. Peyton, but I don't recall if Mr. Peyton was there at this time.

Senator HATFIELD. What was the reaction of Mrs. Peyton to the fact they still had five infected people handling food?

Dr. ROSENBERG. I don't recall her exact reaction to that statement, but she was agreeable to implementing the suggestions we made at that time.

Senator HATFIELD. Were you aware at that time of the statement that people were working, that employees were working involuntarily? I think earlier you said there had been an employee who made the statement we are not working voluntarily because they had a bucket and they were sick and so forth, was this known to you at that time when you were talking to Mrs. Peyton and Mr. Gilmore about getting ill people out of the kitchen?

Dr. ROSENBERG. This had been reported to me at that time.

Senator HATFIELD. You knew that at that time?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. And you felt comfortable in merely stating this position to Mr. Gilmore and Mrs. Peyton, and that they would find completely well persons to fill these positions of people who were ill?

Dr. ROSENBERG. No, I did not feel completely comfortable.

Senator HATFIELD. How did you feel?

Dr. ROSENBERG. Slightly uncomfortable. I was anxious as to whether that could, in effect, be implemented.

Senator HATFIELD. Then if you were anxious as to whether or not that could be implemented, at what next point did you talk to Dr. Gangarosa to share with him this new information and you anxiety about the inability of the concessionaire to implement your medical instructions?

Dr. ROSENBERG. I believe the next time I spoke with him was at 7 a.m. the next morning.

Senator HATFIELD. Did you tell him these subsequent events that had occurred since your previous conversation?

Dr. ROSENBERG. Yes, sir, I did.

Senator HATFIELD. Was he moved?

Dr. ROSENBERG. He agreed at that time we had enough evidence to warrant closure of the park.

Senator HATFIELD. To warrant——

Dr. ROSENBERG. Closure of the park.

Senator HATFIELD. This was on the morning of the 10th at 7 o'clock you say?

Dr. ROSENBERG. The 11th, I am sorry.

Senator HATFIELD. Oh, on the 11th. Well, of course by that time they had already discovered, hadn't they, the broken sewer?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. That really wasn't much of a profound professional judgment made at that time on the basis we should close the park of food handlers. Did you give Dr. Gangarosa the information about the broken sewer line?

Dr. ROSENBERG. Yes, sir, I did give him that information.

Senator HATFIELD. When you discovered the sewage break and the raw sewage in the water would you give us an estimate of the amount of chlorine that would be needed to make the water at Munson Springs drinkable?

Dr. ROSENBERG. When it was discovered how much chlorine I felt——

Senator HATFIELD. When the discovery was made of the sewage break, and in fact raw sewage was in the water, would it be possible to introduce enough chlorine to make the water at Munson Springs drinkable, useable, safe, consumable?

Dr. ROSENBERG. Conceivably it could be possible.

Senator HATFIELD. How much?

Dr. ROSENBERG. I can't give you an exact estimate, but we did feel in all practical terms that could not be done and that water would have to be filtered in addition to chlorinated.

Senator HATFIELD. The staff has indicated at that point I believe you rewrote the notice to the visitors?

Dr. ROSENBERG. It was rewritten. I did not myself rewrite it.

Senator HATFIELD. Dr. Koplan?

Dr. ROSENBERG. I believe Dr. Koplan, working together with sanitarian Mr. William Titus, rewrote it.

Senator HATFIELD. Did Dr. Koplan write or did you write the statement that was addressed to the employees at the Crater Lake Lodge on July 7? You weren't here at that time?

Dr. ROSENBERG. No, sir.

Senator HATFIELD. Dr. Koplan was, I believe?

Dr. ROSENBERG. Dr. Koplan arrived at the park on the 7th.

Senator HATFIELD. This notice was posted on the 8th, the day you arrived. Do you know if Dr. Koplan had no hand in writing that?

Dr. ROSENBERG. He had no hand in writing that.

Senator HATFIELD. He was not consulted about writing this?

Dr. ROSENBERG. To my knowledge he was not consulted at all about that.

Senator HATFIELD. Dr. Gangarosa, we appreciate very much your traveling here for this hearing today. And naturally, as I indicated earlier, we want to include your full statement in the records, which it will be. And I would like to get to the heart of the whole matter as it involves you at this point, and that is what your reaction was to the call that indicated that there was this infromation in the hands of Dr. Koplan and Dr. Rosenberg, that in their professional judgment that

there should be certain facilities of the park closed, and why you did not agree with that particular recommendation.

Dr. GANGAROSA. I did not agree to that particular recommendation at that time because I felt there was insufficient epidemiological evidence on which to make that decision.

Senator HATFIELD. Would you tell me what the criteria of the sufficiency is in this kind of evidence?

Dr. GANGAROSA. I thought, as did my superiors with whom I reviewed this data, I thought it would be important to determine how transmission was occurring, because we did not know transmission was occurring by water. And, in fact, there was some evidence to raise the question that there might have been alternative ways of transmission. In order to establish that water was the vehicle of transmision, I felt it was important to establish a difference in the attack rate between those who had drunk water and those who had not drunk water, and that that information was being correlated on the 10th at the time of our conversation, and I felt that that information would be forthcoming within the close of that day, and indeed it was.

Senator HATFIELD. So at this point, Dr. Gangarosa, your concern was not that people were sick as much as it was that they were getting sick, is that correct?

Dr. GANGAROSA. I was not persuaded at that point that people were still getting sick. To use your analogy, I was not persuaded that the house was still on fire. And that is why I asked for the additional information as to whether or not persons who had been exposed to chlorinated water at the Rim on the 7th and 8th had, in fact, became ill following that exposure.

Senator HATFIELD. What about the report given to you by Drs. Rosenberg and Koplan that there was this information from the Oregon Department of Health about the tour bus, and of the 14 out of the 15 persons on that bus who had had that water and the 15th person who had not?

Dr. GANGAROSA. That was not a statistically valid sample. The survey that was being conducted at that time would give that vital information, and I felt it could be completed on that day.

Senator HATFIELD. Doctor, what would be the way to get the information you felt was necessary, what method, what technique?

Dr. GANGAROSA. By telephone contact with a statistical sample of persons who had been at the park on specified days.

Senator HATFIELD. What kind of a sample do you call on the telephone to ask for? I don't quite follow that.

Dr. GANGAROSA. The investigators knew the names of the persons who had stayed on the Rim on given days, and those persons, the survey included an attempt to contact those persons. It was well on the way on the 10th, and I felt we could complete it that day.

Senator HATFIELD. How many would have to be called to conduct that survey?

Dr. GANGAROSA. It would not have to be a large number. In fact, when the survey was completed on the 10th, the evening of the 10th, 20 of the 21 who were exposed on the Rim on the 7th or 8th had become ill, and that answered the information that I had asked as to whether or not the house was on fire, to use your analogy.

Senator HATFIELD. Twenty out of twenty-five?

Dr. GANGAROSA. Twenty out of twenty-one.

Senator HATFIELD. Twenty out of twenty-one had become ill?

Dr. GANGAROSA. That is right.

Senator HATFIELD. Tell me the difference between having 14 out of 15 and 20 of 21.

Dr. GANGAROSA. That was an anecdotal piece of information. Those persons, as I recall, had visited on the 4th of July; I wanted to know about exposures that took place after we knew there was adequate chlorination on the 7th and 8th. And as you will notice, I had no information about that on the 6th and 7th. It was information on the 7th and 8th I was concerned with having.

Senator HATFIELD. Were you aware of the number of people that had been ill, such as 50 people handling food, 75 out of 80 who had been ill, 22 YCC people, staff people of the Park Department's personnel, including the superintendent's daughter? All of this particular data, which was pretty well affirmed by your representatives, Drs. Koplan and Rosenberg. Now, this gets up into scores of evidence of people being ill. This does not say how they got ill, except they were ill there, and you're telling me you wanted some telephone calls made, and 20 out of the 21 convinced you of something scores of other people being ill could not convince you?

Dr. GANGAROSA. That is right, because that was a statistical sample.

Senator HATFIELD. What is a statistical sample?

Dr. GANGAROSA. A statistical sample is an enumerator and denominator. And what you're talking about was enumerator data, but what I wanted was an attack rate. I wanted to know the number of people exposed, the number of people ill. That is the basis upon which a decision had to be based. It was an epidemial bit of information not available on the 10th.

Senator HATFIELD. Were you aware how many might be affected or exposed each day?

Dr. GANGAROSA. Yes; I was.

Senator HATFIELD. What did you think about that?

Dr. GANGAROSA. Of course, I was concerned.

Senator HATFIELD. What was the way you expressed that concern, go to the telephone and make some telephone calls.

Dr. GANGAROSA. The telephone is a very useful tool in epidemiology, it helps us gather the information we need to make these kinds of important decisions.

Senator HATFIELD. Tell me how important it is to close the facility of a park, such as a concession? You're a doctor, aren't you?

Dr. GANGAROSA. Yes, sir.

Senator HATFIELD. What is the importance you place on that as a doctor?

Dr. GANGAROSA. I place a great deal of importance on making a decision, that is correct. I don't feel I had the evidence at that time to make a correct decision, sir. I felt making a decision at that point would have involved a certain eviscerated decision I was not able to make.

Senator HATFIELD. It was very eviscerated, Doctor. Of all the testimony I have heard so far, yours appalls me the most. Let's try to start again.

Dr. GANGAROSA. It may not be coming through completely clear because of the difference in the people you're referring to. You said

many, many people, among them the YCC and 75 out of 80 of the concessionaire's employees had become ill. I think the very distinction between that and those who had arrived at the park on the 7th, 8th, and 9th was important so that one could determine whether people were still becoming ill. That was the crucial question. Had this been an epidemic that had come to the park then had stopped?

Senator HATFIELD. Dr. Rosenberg, are you trained in statistical analysis, statistical sampling?

Dr. ROSENBERG. Yes.

Senator HATFIELD. Is that part of your professional competence?

Dr. ROSENBERG. Yes, sir.

Senator HATFIELD. Is that one of the reasons you and Dr. Koplan were sent here?

Dr. ROSENBERG. Yes, sir.

Senator HATFIELD. Is Dr. Koplan trained, skilled, and experienced in this same type of thing?

Dr. ROSENBERG. He's had training in that as well.

Senator HATFIELD. Have you done this type of thing before, I am talking about statistical sampling, statistical gathering, statistical analysis?

Dr. ROSENBERG. Yes, sir.

Senator HATFIELD. You took the professional training, and you take your experience seriously, do you, Dr. Rosenberg?

Dr. ROSENBERG. Very seriously.

Senator HATFIELD. Dr. Koplan?

Dr. ROSENBERG. I presume he does as well.

Senator HATFIELD. Then Dr. Rosenberg, were you being facetious when you called Dr. Gangarosa, or were you and Dr. Koplan being slipshod in your work by calling your superior and recommending there be certain facilities closed in the park, based on the evidence, based upon your judgment, the professional analysis you had made on the spot? Then your superior comes back and says do some elementary calling to get your telephone data, this is not sufficient. This either represents incompetence on your part and Dr. Koplin's part, or it represents, I don't know what you define it on Dr. Gangarosa's part. Here you send three experts in effect, Dr. Koplan in person, you, Dr. Rosenberg, and you, Dr. Gangarosa. Two of you are out here with that kind of evidence and kind of exposure, and trying to look at it specifically, and what I am hearing from your superior you didn't conduct an elementary analysis that would bring to him the kind of data upon which he could make an elementary judgment.

Dr. ROSENBERG. We were faced with different judgments.

Senator HATFIELD. No; it is not a question of judgment. We are now back talking about simple elementary procedures. If I were Dr. Gangarosa saying that I want some statistical samples I can make a judgment on, I would imagine that came in course statistics 101, and here you are in a professional status out here to investigate, and you do, and you are not only alone but in company with Dr. Koplan, you call back, and it is not a question of judgment that your superior is now saying I want some elementary procedures followed before I will accept the recommendation you have thus far presented to me.

Now, I would like to hear from Dr. Gangarosa, or either one of you. If I am hearing this wrong, I want to be corrected.

Dr. GANGAROSA. I am not sure of the question you are asking me, sir.

Senator HATFIELD. I guess I am not really asking a question at this point, I am asking for your observation on my analysis.

Dr. ROSENBERG. I believe it was truly a difference in judgment that people had on making decisions on the data available to them. I think it is a very difficult field, and that experts in decision analysis disagree as to methods. And I think experts in this area, given that data, might make different judgments as to their decision.

Senator HATFIELD. But you see, he tells me he wanted an attack rate. An attack rate is a procedural matter that comes out of——

Dr. ROSENBERG. I believe Dr. Gangarosa wanted an attack rate on persons who visited the park on the 7th, 8th, and 9th. We did not have that information at that time.

Senator HATFIELD. Did you not consider that important? Why didn't you have it?

Dr. ROSENBERG. Because in part we were limited by time and physical capabilities. We did not feel that that bit of data was as important to the decision at the time as Dr. Gangarosa judged it to be.

Senator HATFIELD. You had seen the sick people, hadn't you?

Dr. ROSENBERG. I had seen some sick people, that is correct.

Senator HATFIELD. You saw the circumstance of people handling food who were sick. You had evidence given to you there were such people?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. You had a report in your hand from a lab showing there was certain contamination in at least certain parts of the water supply?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. You made a judgment on the basis of those facts there should be a closure rather than on a procedural method of how to arrive at certain statistical examples I believe your phrase is, which is a process of a procedural matter, right?

Dr. ROSENBERG. Yes, on the basis of the evidence we had, which included what you mentioned and some additional evidence we did decide.

Senator HATFIELD. I think, Dr. Gangarosa, we have both from your own lips and from others, if I am not jumping at conclusions, if I hear you correctly, indeed the house was on fire, and you had little interest in the fire, you were interested in how it started. I think my analogy has been confirmed by your associates out here. Now, please do correct me if I am in error.

Dr. GANGAROSA. Sir; we are involved in investigating between five and perhaps 10 outbreaks each year very similar to the one that we are discussing today involving institutions, involving communities, sometimes whole cities, and it is very important before making decisions in these outbreaks to establish how transmission is occurring so we can be as precise as a surgeon is in removing a lesion. There were many potential ways that disease could have been spreading here at Crater Lake. The most likely ways were person-to-person transmission. And water was certainly a possibility. The team had ruled out, I felt, the possibility of food. But in the investigation of perhaps 50 to 100 of these outbreaks over the past two decades, I can tell you the most likely method of transmission is not water, but person-to-person. I don't

mean the physical type contact that immediately comes to mind, but contact that may result from air-borne transmission. Large community outbreaks such as this have been traced to a final agent, so called Norwalk agent, and I thought, and many of my colleagues thought this was the most likely explanation for this outbreak, and I thought we could answer that question by getting the information we needed. I was not, nor were my superiors, persuaded that the epidemic was still continuing. There were some anecdotal bits of information the epidemic was subsiding. In fact, we have information we would be glad to show you that strongly suggests that was the case.

Senator HATFIELD. Dr. Gangarosa, wouldn't it have been perhaps a useful prophylactic measure to close the park during this time of the testing that you asked for in order not to expose literally thousands more people?

Dr. GANGAROSA. We did not know on the 10th for example if we were dealing with an outbreak that might have affected other parts of the community as well.

Senator HATFIELD. But you weren't investigating the whole community in that sense, you were coming out here to look at Crater Lake National Park.

Dr. GANGAROSA. Yes, indeed. We were considering the need to close the facilities and park, and the information that made that possible was being collected on the 10th and was completed on the 10th, and was transmitted to us the morning of the 11th. It so happens that was the same night, that is the evening of the 10th was the same time that the sewage plug was discovered.

Senator HATFIELD. Then the information transmitted to you was 20 out of 21, and on the basis of methodology you would have agreed to close the park as recommended to you earlier by Dr. Koplan and Dr. Rosenberg, is that correct?

Dr. GANGAROSA. That is correct, sir.

Senator HATFIELD. That is amazing. What harm could have occurred if the park facilities that were recommended to you by Dr. Koplan and Dr. Rosenberg be closed, what harm could have occurred to any one person?

Dr. GANGAROSA. I did not know what the ramifications of a decision at that time would be, but we were——

Senator HATFIELD. What personal harm to the health of people could have occurred by closing the park at the time it was recommended to you?

Dr. GANGAROSA. I was not in a position to know the ramifications of a decision——

Senator HATFIELD. Just answer that question on an hypothetical basis.

Dr. GANGAROSA. I don't know.

Senator HATFIELD. Were there economic considerations?

Dr. GANGAROSA. I don't know.

Senator HATFIELD. Would you have considered certain economic factors in such an action?

Dr. GANGAROSA. If the evidence was available upon which to make the decision, no considerations would have dissuaded us from making the correct decision. We were simply asking to have the information collected, and it was being collected, in order to make a correct decision.

Senator HATFIELD. Well, let's not create fog here and throw up smoke. You had information.

Dr. GANGAROSA. We had anecdotal information suggesting it, but, sir, there was enumerator data.

Senator HATFIELD. You had information, so don't throw up smoke that you needed information that was new and different than what you had.

Dr. GANGAROSA. We also had information the disease was occurring in persons that had never drunk the water at Crater Lake.

Senator HATFIELD. All right, what personal harm could occur to anyone present in or out of the park, or who even thought about coming to the park, if you had let the park be closed at the time it was recommended by your associates?

Dr. GANGAROSA. I don't know. I can't answer that.

Senator HATFIELD. Could there have been economic harm?

Dr. GANGAROSA. I don't know. I had absolutely no idea what economic considerations were present. I was removed from the scene, I had no idea of the economic considerations.

Senator HATFIELD. You see, you're dodging my question on a medical basis, so I thought I would venture out into some other areas you might be willing to comment on. I think as a scientist you could answer a very elementary question. The question you seem to refuse to answer for this committee hearing, and which I will propose to your superiors if necessary to get the information, is simply this, and I will state it again: What medical or physical or psychological or any harm to an individual could have ocurred or might have been a result of or might have been attributable to or might have been related or implied by closing the facilities of the park at the time it was recommended to you by Drs. Rosenberg and Koplan? What could have been the consequence of that action?

Dr. GANGAROSA. I think the most immediate consequence of that action would have been in a loss of credibility if we had made the wrong decision.

Senator HATFIELD Credibility of who?

Dr. GANGAROSA. Of our organization.

Senator HATFIELD. Now, who would have made that judgment of credibility? Let's take a hypothetical situation, you had supported the recommendation, you had closed it and they continued on the course of gathering the information of 20 out of 21, and that came out in a different way so it would have indicated that closing the park might not have been necessary, now what kind of a credibility challenge is going to be leveled against you?

Dr. GANGAROSA. Could I answer that question, sir, by making an analogy?

Senator HATFIELD. Yes.

Dr. GANGAROSA. I would like to tell a little story of a health officer who was investigating an outbreak not dissimilar from that which occurred at Crater Lake, a very high attack rate in the community, and he found a very high percentage of people affected had consumed a product. Let's refer to it as product A, and that exposure, that ingestion occurred within 24 to 36 hours. It just fit very nicely with the incubation period of the disease. He reviewed this information with his staff and they agreed product A was the most likely thing responsible for

that outbreak. And he had a press meeting, he presented his data to the press, and he made the statement that product A was responsible for this outbreak, and urged regulatory authorities to undertake action to recall product A. That afternoon a member of his staff completed investigation and found that an equally high percentage of people who were not ill were also exposed to product A. That is what I mean about the need for epidemiological data, because that health officer put his credibility on the line, and not only did he lose credibility, he lost a good deal more and was subject to a liability consideration.

Senator HATFIELD. The economic factor of the sale of product A, right?

Dr. GANGAROSA. Yes; in this case that was the consideration.

Senator HATFIELD. So we are talking in this case about people becoming ill, not sale of product A. We don't have a product A in this case.

Dr. GANGAROSA. The product A in this case was the water. The analogy is with water. It happened to be the water was responsible, but we didn't know that on the 10th.

Senator HATFIELD. But you did know these people were sick from something.

Dr. GANGAROSA. We didn't know they were still being sick.

Senator HATFIELD. Your report was very clearly established by the record here today by Dr. Rosenberg.

Dr. GANGAROSA. We knew people were sick at that time, but we didn't know if people newly exposed to that chlorinated water system were still getting sick. That was the critical information we needed.

Senator HATFIELD. I guess we are really on a parallel track, because we are back to the question of judgment.

Dr. GANGAROSA. Yes, sir, it was professional judgment.

Senator HATFIELD. No; not professional. No, no; we are back on the basis of judgment on this question of what is more important, the public interest or some professional prestige and professional credibility. The safety of people, the exposure of people who are obviously in a circumstance and located where they had been ill, were ill at the time, and closing that park facility, far from harming anyone, far from even bringing the possibility of harm to anyone, could have protected thousands of people from harm. And the only reason we can get is a statistical gathering methodology and professional credibility. You said that data gained on the 10th. It would have been far safer to close the park at that time, could have saved exposure that 1 day until you got that information, then you could say it did not bear out, we will reopen, or it does bear out and we are glad we closed it.

I think this is far more basic than professional judgment, it is a matter of priority. That is the judgment factor, where you put the priority. And obviously the priority was not placed, on the basis of your testimony—and I ask to be corrected if I am wrong—the basis was not to keep people from becoming ill on the basis not of the park superintendent's recommendation or some politician or some newspaper writer, but on the basis of your own staff people, Dr. Rosenberg and Dr. Koplan. So I think that is where the judgmental factor is in this whole equation. The priority was on these other factors, methodology, prestige, and credibility of the profession, perhaps a little different hierarchial view of what the person upstairs is going to say.

Because all day we have had this come through loud and clear, this decision was not made because somebody had to check with somebody, or the buck was being passed along.

And I wouldn't have made this comment at the beginning of this session, but believe me it comes through so loud. And I don't say this critically, and I say this just as an analysis of being locked into certain professional influences we all have in our own professions, and doctors are not without them, park superintendents are not without them, Senators are not without them, but in this case it did affect the health of the public, and it is where I think maybe all of us need to reevaluate these little procedures and little mores in our professional priorities and professional actions.

Let me ask you, in retrospect would you have done the same thing again?

Dr. GANGAROSA. No, sir, not in retrospect I would not have.

Senator HATFIELD. Thank you, sir. Very good. I appreciate your candor.

[The report of Dr. Rosenberg and statement of Dr. Gangarosa follow:]

MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

TO The Record

DATE September 4, 1975

FROM Enteric Diseases Branch
Bacterial Diseases Division

SUBJECT. Chronology of CDC's Role in the Investigation of Gastrointestinal Illness at Crater Lake National Park, July 1975

July 3: John A. Googins, M.D., Oregon State Epidemiologist, telephoned J. Lyle Conrad, M.D., Director, Field Services Division, Bureau of Epidemiology to discuss reports Dr. Googins had received of gastrointestinal illness at Crater Lake National Park.

July 4: Dr. Googins visited the Park

July 5: Dr. Googins requested epidemic assistance from Dr. Conrad.

July 6. Dr. Conrad discussed the situation with Eugene J. Gangarosa, M.D., Deputy Director, Bacterial Diseases Division, who in turn telephoned Dr. Googins and promised assistance. Jeffrey P. Koplan, M.D., CDC Career Development Officer assigned to the California State Health Department at Berkeley, was requested to go to the Park to provide epidemiologic assistance.

July 7: Dr. Koplan arrived at the Park and collected preliminary clinical information by interviewing several ill persons. In a telephone conversation with Dr. Gangarosa, Dr. Koplan reported that the illness was characterized by nausea, vomiting, cramps, and diarrhea; that the illness appeared to have affected National Park Service (NPS) employees, rim area employees, and Youth Conservations Corps (YCC) enrollees and staff. It was agreed that Mark L. Rosenberg, M.D., EIS Officer, Enteric Diseases Branch, Bacterial Diseases Division, would be sent to the Park to assist in the investigation.

That evening Dr. Koplan distributed a preliminary questionnaire to YCC and NPS personnel. Bruce Stubblefield, Director, YCC, showed Dr. Koplan a report of a bacteriological analysis that had been performed by the Klamath Basin Water and Soil Testing Laboratory on water samples collected from the YCC dormitory and mess hall by YCC staff on July 1. The report indicated that coliform organisms had been present in each of the five 10-ml aliquots tested; that the total plate count was 667 organisms per ml; and that the sample was positive for fecal coliforms.

July 8: Dr. Koplan told Dr. Gangarosa in a telephone conversation that his preliminary questionnaire showed the attack rate among YCC and NPS personnel was approximately 90%; many persons were still ill; the most prevalent symptoms were diarrhea, cramps, and vomiting, and the first reported case occurred June 16; he alao relayed to Dr. Gangarosa the report of the contaminated water sample.

Dr. Koplan checked chlorine levels at various points in the water distribution system and found no detectable chlorine in water sampled in the YCC dormitory and NPS housing in Steele Circle; free chlorine levels at the rim dormitory and rim cold-water cabin were 0.8 ppm and 1.0 ppm respectively.

Dr. Koplan called Ms. Kay Yarabinec, R.N., nurse consultant, Oregon Health Division who reported that 14 of 15 persons in a tour bus group which had stayed overnight at the Crater Lake Lodge developed gastrointestinal symptoms approximately 48 hours after arrival at the Park on July 4; the single person who had not become ill was the only person who had not drunk water at the Park.

Dr. Rosenberg arrived at the Park at approximately 11:30 p.m. local time. He was shown the report of the contaminated water sample and discussed with Dr. Koplan the preliminary survey results.

July 9: Drs. Koplan and Rosenberg suggested to Richard H. Sims, Park Superintendent that he post and distribute notices advising Park visitors and personnel to boil or chlorinate all water before use (Appendix 1).

Jeff Adams, Park Facilities Management Officer, met with Drs. Koplan and Rosenberg to sketch and review the park's water and sewerage systems. He explained that water distributed to the Park headquarters area could be shortcircuited around the chlorine pump as a result of construction work done at the pump house in 1974. He was requested to have the pump house area cleared of seven feet of snow so that the chlorine injection system could be inspected and a second chlorine injector set up to assure adequate chlorination of water delivered to the headquarters area.

Water samples for bacteriologic analysis and chlorine testing were collected from Munson Springs and throughout the distribution system (Appendix II). Chlorine levels were monitored twice daily thereafter.

Drs. Rosenberg and Koplan conveyed the information they had collected to this point to Dr. Gangarosa. They agreed that a more complete survey of resident Park personnel should be undertaken.

At a meeting with Mr. Ralph Peyton, President of the Lodge and park concessions, Drs. Koplan and Rosenberg explained that food handlers who still had gastrointestinal symptoms should not be allowed to work in any food handling or food service area. They explained that water was considered a possible vehicle of transmission and that all park visitors and personnel were being advised against using park water that had not been boiled or adequately chlorinated.

During the evening of July 9, Drs. Rosenberg and Koplan distributed a questionnaire to resident park personnel. At a meeting in the rim dormitory attended by approximately 80 rim area personnel, Drs. Rosenberg and Koplan explained the nature of their investigation, answered questions about medical aspects of the illness, and requested all persons to fill out a questionnaire and to contribute a serum sample and rectal swab. (A poll was taken by show of hands of 1) how many persons present had been ill - approximately 75 hands were raised; 2) how many persons were still ill - approximately 50 hands were raised; 3) how many persons worked in food service areas - 30 hands were raised; 4) how many of those persons were still ill and working - approximately 30 hands were raised.) It was emphasized that rigorous attention to good hygienic practices was extremely important and that no person who still had any gastrointestinal symptoms should be working in any food handling capacity.

Lists of recent lodge guests were obtained from the lodge management and a survey of all guests registered on or after July 4 was begun to ascertain whether the attack rate had decreased after July 4 when adequate chlorine levels had reportedly been measured in the rim area.

July 10: At 10:15 a.m. local time (1:15 p.m. EST) Dr. Koplan presented the data that had been accumulated to Drs. Brachman and Gangarosa in a conference call. In this call it was reported that:

1. The illness was characterized by the sudden onset of nausea, vomiting, and cramps followed by diarrhea; the incubation period was approximately 48 hours based on intervals between arrival and onset of illness for YCC personnel and the 14 people on a bus tour; the median duration of illness appeared to be 4-5 days; the first case had been reported June 16 and clusters of new cases seemed to occur about 2 days after the arrival of new personnel to the park; thus there were small peaks in the epidemic curve in the 4th week of June and the first week of July. Information about illness in visitors was still incomplete and rates could not be calculated, but from telephone reports from persons who had visited the park in groups it was known that 14 of 15 persons who visited on July 4 became ill; 1 of 2 persons who visited on July 5; 11 of 14 who visited on July 6; and 14 of 14 who had visited on July 7.

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2. Water obtained from Munson Springs was chlorinated prior to distribution to the rim and headquarters areas. In the rim area, adequate chlorine of more than .5 ppm had been recorded by Oregon Health Division personnel on July 4 and daily from July 7 on; water to the headquarters area had no detectable chlorine since at least July 7. Bacteriologically unsatisfactory water samples had been submitted by the Park in the past as well as on July 1 according to sanitarians from the Klamath County Health Department. No records were kept of chlorine levels in any part of the water distribution system beyond the point where chlorine was injected.

Information on water ingestion was presented for 2 groups of people: of 8 NPS personnel who lived outside the park, 4 had drunk park water and become ill and 4 had not drunk park water and remained well; in addition 14 of 15 persons in a bus tour group who had drunk park water when they stayed overnight at the Lodge on July 4 became ill, while the 1 person who did not drink water remained well. The survey of all park personnel was still being collected and its data was not yet available for analysis. There were reports of illness affecting visitors to the lodge even after July 4.

3. No common food source at the park that could account for such widespread illness was identified. There was evidence that person-to-person spread had occurred among family members of ill park personnel: 2 of 12 family members had become ill without having visited the park themselves.

4. The results of the show of hands poll taken the previous night.

5. Control measures that had been instituted.

Shortly after this conversation Dr. Gangarosa telephoned Dr. Rosenberg to indicate that additional epidemiologic data should be gathered, and that more evidence was necessary before further control measures could be recommended. Specifically, evidence was needed to indicate a) whether visitors who drank water only in the rim area on July 7 and 8, when chlorine levels were known to have been adequate, had become ill; b) whether a statistically significant difference in attack rates could be demonstrated between water-drinkers and non-drinkers in a statistically valid sample; c) if either the food-service areas or the park were closed, what would be the criteria for re-opening these facilities. Drs. Rosenberg and Koplan began to collect this additional information.

Dr. Gangarosa telephoned Dr. Googins to explain CDC's position.

Edward Press, M.D., Oregon State Health Officer, telephoned David J. Sencer, M.D., Director, Center for Disease Control, to urge that CDC recommend that the park be closed.

Dr. Gangarosa called Dr. Rosenberg to report that a conference call was scheduled for 10 a.m. EST July 11 with Drs. Sencer, Brachman, and Gangarosa to discuss the situation, review the additional epidemiologic data that would be available at that time, and reach a decision on the proper control measures to be taken.

Drs. Rosenberg and Koplan interviewed persons working in the cafeteria kitchen, service line, and central storeroom area. Of 6 persons interviewed and working, 5 still had diarrhea. A sanitation inspection was made by G. Edward Barnes, Sanitarian, Oregon Health Division.

At 7:30 p.m. local time Mr. Sims notified Drs. Rosenberg and Koplan that Mr. Adams had found an obstructed sewer. A fluorescein dye test was performed and when positive results were confirmed, Drs. Rosenberg and Koplan met with Mr. Barnes and Willard S. Titus, Sanitarian, Oregon Health Division. A notice was prepared for distribution to all park residents and visitors warning them of the water contamination and advising them not to use the park's Munson Springs water for anything other than flushing toilets (Appendix III).

William Mullen, Chief, Drinking Water Programs Branch, Environmental Protection Agency, Seattle, Washington, was contacted and made plans to arrive at the park the next day, at the request of the park administration.

Dr. Rosenberg telephoned Mr. Peyton to request that a) all lodge guests and rim area personnel be advised as soon as possible not to use Munson Springs water for any purpose other than flushing toilets and b) no food contaminated with water from Munson Springs be served, that all food previously prepared with that water be discarded, and that no food preparation or service implements be used without prior disinfection with water from another source.

July 11: At 7:00 a.m. local time Drs. Koplan and Rosenberg conveyed to Drs. Sencer, Brachman, and Gangarosa at CDC the additional epidemiologic data that had been acquired during the previous 12 hours. Dr. Rosenberg indicated that 20 of 21 lodge visitors who had been interviewed by telephone and who had stayed at the lodge July 7 or 8 had become ill, and that analysis of data showed water ingestion to be significantly associated with illness occurring in visitors to the rim area of the park after July 4. Dr. Sencer recommends closure of the park.

After further consultation at CDC it was decided that immune serum globulin (ISG) prophylaxis for hepatitis should be recommended for all persons who had drunk water or eaten food prepared at the park from June 10 to July 11. This recommendation was included in that morning's news release (Appendix V), arrangements were made with the Oregon Health Division to administer ISG to all park personnel that afternoon (Appendix VI). Blood samples and stool specimens were collected from permanent NPS staff to screen for early signs of hepatitis. In addition, the park administration was advised to write letters to all lodge guests informing them that the park water had been found to be contaminated with sewage and advising them to receive ISG if they had drunk water or eaten food prepared at the park.

July 12: A list of recommendations prepared by Mr. Barnes, Mr. Mullen, Michael O'Neal, Regional Engineer, Oregon Health Division, Mr. Titus, and Drs. Rosenberg and Koplan was presented to Mr. Sims and discussed with him (Appendix VII).

First story on "Outbreak of Gastrointestinal Illness at Crater Lake National Park - Oregon" appeared in Morbidity and Mortality Weekly Reports (Appendix VIII).

July 19: Follow-up article printed in MMWR. (Appendix VIII)

July 22: Dr. Koplan returned to the park to collect additional blood and stool samples and to discuss the results of screening for signs of hepatitis on the first set of samples.

July 23: Letter detailing preliminary epidemiologic and laboratory findings mailed to park administration and health officials involved in investigation (Appendix IX).

July 31: Dr. Koplan returned to the park a second time to collect water samples and filters which had been used to filter water. He also administered another questionnaire to screen employees in food handling positions, collected additional rectal swabs, discussed preliminary findings, and re-emphasized the importance of personal hygiene in preventing person-to-person transmission of the illness.

August 2: Follow-up article in MMWR describes isolation of enterotoxigenic Escherichia coli from 11 of 29 ill persons (Appendix IX).

August 13: Mr. Sims requested epidemiologic assistance from CDC to assist in evaluating reports of new illness at the park.

August 14: Dr. Rosenberg returned to park and administered a survey which revealed that 8% of resident park personnel (18 persons) had either vomiting or diarrhea on August 14; the symptoms of 8 of these persons had persisted from June or July; 9 had been well for at least 1 week before becoming ill again, and one person could not decide whether his symptoms were persistent or recurrent. Dr. Rosenberg discussed with park administrators that he had found no evidence of a new epidemic. He felt that these recurrences and reports of illness among 7 park visitors were compatible with person-to-person spread (Appendix X).

Dr. Rosenberg collected additional rectal swabs and reviewed the park's gastrointestinal illness surveillance system.

Appendix I

TO ALL VISITORS

Over the past several weeks there has been an outbreak of gastroenteritis in Crater Lake National Park. This illness is characterized by diarrhea, abdominal cramps, nausea, vomiting, and chills. It can last anywhere from a few hours to several days. It is unclear how this illness is contracted or how it is spread. We have professional U. S. Public Health personnel actively working on this problem now.

While using the park facilities, we recommend using no water for drinking, for food preparation, or toothbrushing that hasn't been pre-boiled or treated with iodine or chlorine tablets. Water may not be a factor in contracting the illness, but we feel this precaution is important at this point.

We hope to correct this situation as quickly as possible.

Thank you.

Richard H. Sims

Richard H. Sims, Superintendent
CRATER LAKE NATIONAL PARK

Appendix II

Chlorine Levels in Park Water Distribution System

Location	Chlorine (ppm) 7/7	7/8 pm	7/9 am	7/9 pm	7/10 am	7/10 pm
YCC mess hall	-	-	0	0	0	0
YCC dorm	-	0	0.5	-	-	-
Steele Circle	-	0	0	0	0	0
Pump house	1.5	-	-	1.5	-	-
Rim cafeteria	-	-	1.0	1.0-1.5	1.5	2.0
Rim dormitory	-	0.8	0.5	0.5-1.5	1.5	2.0
Rim lodge	2.0	-	1.0	0.5-1.5	1.5	>2.0
Rim cabin	-	1.0	0	0.3-0.5	0.2	0.3

Appendix III

TO ALL VISITORS

The potable water supply serving the facilities at Crater Lake National Park has been found to be contaminated with sewage. The water IS NOT fit to drink or use for any purpose other than flushing toilets. It is imperative that the following precautions be taken immediately:

1. Do not drink, bathe, wash clothes, brush teeth, or use the water from the park sytem for any purpose other than flushing toilets.

2. Normal disinfection precautions such as boiling, chlorine, iodine, etc., are not effective and should not be relied upon.

Thank you,

Richard H. Sims

Richard H. Sims, Superintendent
CRATER LAKE NATIONAL PARK

Appendix IV

ATTENTION ALL VISITORS

The water in the park has been contaminated with sewage. Persons who have consumed water here may develop gastroenteritis with nausea, vomiting, diarrhea, and cramps. This is a self-limited disease which should get better by itself. It is important for all persons who are ill to drink adequate amounts of liquid to prevent dehydration. It is also important for all ill persons to wash their hands carefully before every meal and to avoid handling food to be consumed by other persons.

There is a small risk that persons exposed to this water may also develop hepatitis. For this reason all exposed visitors are urged to consult their physicians for gamma globeilin injections.

Thank you for your cooperation.

Richard H. Sims
Superintendent
CRATER LAKE NATIONAL PARK

July 11, 1975

Appendix V

Press Release from CDC and National Park Service - July 11, 1975

The National Park Service following consultation with the Public Health Service's Center for Disease Control has closed Crater Lake National Park.

CDC's recommendation was made following an outbreak of illness at the Park. An investigation disclosed that drinking water in the Park may have been contaminated with untreated sewage.

Since mid-June approximately 500 residents and visitors to the Park have become ill. Their illness was characterized by sudden nausea, vomitting, and cramps and followed moderately severe diarrhea, with chills and headache. Illness lasted several days, followed by a recovery period and in some cases the original symptoms returned. No deaths or serious complications have been reported.

Overnight visitors to the Park are being informed by letter of their possible exposure to contaminated water which may have contained hepatitis virus. They are being advised to consult their family physician or Health Department because of the possible exposure to hepatitis. The Public Health Service recommends the administration of gamma globulin as a preventative measure for those exposed persons. CDC advises visitors to the Park who did not register to take similar action if they drank water or ate food prepared at any of the park's facilities.

Appendix VI

Notice to All Park Residents, Employees and Families

It is recommended that all persons who have consumed park water receive injections of gamma globulin to reduce the risk of developing hepatitis. Public Health Personnel from the Oregon State Health Department will be at the Community Center at Steel Circle this afternoon from 2 p.m. to 6 p.m. to administer gamma globulin to all persons who desire it.

Appendix VII

RECOMMENDATIONS TO THE SUPERINTENDENT OF CRATER LAKE NATIONAL PARK
July 12, 1975

1. The existing piped water system is contaminated and should not be used for drinking, cooking, tooth brushing, or washing. All ice-cubes and food prepared with Munson Springs water should be discarded.

2. Water from Annie Springs is potable and should be provided in adequate quantities for domestic use by resident park personnel. The Park Administration should obtain a commercial chlorine-containing bleach to distribute to all park personnel. Utensils and dishware contaminated with Munson Springs water should be washed and then soaked in a solution of 1 tablespoon of bleach to 1 gallon of warm water for at least 30 minutes. Contaminated containers used for water transport should be similarly treated. Adequate shower facilities should also be provided.

3. Park personnel who have not yet received gamma globulin should obtain it from their physician or local health department.

4. The Park should remain closed until:
   a. piped potable water has been provided for park residents; this should be the highest priority to allow remaining park personnel to achieve normal domestic routines.
   b. adequate toilet facilities are available at the rim and headquarters areas. These facilities must include adequate supplies of potable water for handwashing.

5. Thorough disinfection of the existing distribution system could be accomplished using water that is either filtered or derived from Annie Springs. Munson Springs water could be made potable by passage through a temporary portable filtration-chlorination unit placed near the pump station. Alternatively, a water line could be constructed to deliver water from Annie Springs to the pump station.

6. All water system construction and disinfection should be supervised by the Oregon State Health Division or National Park Service consultants. Frequent monitoring of all parts of the system for bacterial contamination must be continued throughout the periods of disinfection, construction, and operation. The system should conform to standards set by the Oregon State Health Division and the United States Environmental Protection Agency.

7. Written records should be maintained of all monitoring for bacterial contamination and chlorine residual levels at various points in the distribution system. These points should include those parts of the system farthest from the point of disinfection.

8. Reports of unsatisfactory water specimens must be quickly and effectively followed-up with intensified monitoring of the system and correction of any possible system deficiencies. Arrangements should be made to assure rapid return of reports from testing facilities.

9. The park superintendent should designate a specific member of the park staff to have responsibility for sanitation and water quality in the park.

10. A written record of all reported gastroenteric illness occurring in park personnel and visitors should be maintained in the administration office. This record should include name and address of ill person, dates of arrival at park and onset of illness, symptoms, and where person stayed in the park.

11. Public food service facilities should not be re-opened before thorough disinfection of all contaminated water lines, ice-making materials, and food preparation and service items. This process should be supervised by the Oregon State Division of Health or National Park Service Consultants.

12. Protecting the health of park personnel and visitors must be the primary objective in the implementation of these recommendations. Alternative solutions may be adopted but health must not be compromised.

These interim recommendations were submitted by the following persons:

G. Edward Barnes, District Sanitarian, Bend District, Oregon State Health Division

Jeffrey P. Koplan, M.D., Bureau of Epidemiology, Center for Disease Control, United States Public Health Service, Atlanta, Georgia

William A. Mullen, Chief, Drinking Water Programs Branch, U. S. Environmental Protection Agency, Region 10, Seattle, Washington

Michael O'Neal, Regional Engineer, Oregon State Health Division

Mark L. Rosenberg, M.D., Bureau of Epidemiology, Center for Disease Control, United States Public Health Service, Atlanta, Georgia

Willard S. Titus, Sanitarian, Oregon State Health Division

Appendix VIII

OUTBREAK OF GASTROINTESTINAL ILLNESS AT CRATER LAKE NATIONAL PARK - Oregon

From June 16 to July 11, 1975, an estimated 1,000 or more residents and visitors to the Crater Lake National Park in Oregon became ill with a disease which lasted several days and was characterized by sudden nausea and vomiting, then cramps and moderately severe diarrhea with chills and headache. The outbreak was first recognized in the first week of July among park staff who reported their illness to the Klamath County Health Department. A survey of 317 of the 345 park employees on July 8-10 revealed an attack rate of 91%, with the first cases occurring approximately June 16. Preliminary data from questionnaires administered to 121 of 900 persons who were lodge guests on or before July 11 identified 95 ill persons, for an attack rate of 79%. In some persons who had apparently recovered, the original symptoms returned in what appeared to be a biphasic and sometimes triphasic illness. On July 10 and 11, 2 members of the park staff complained of arthralgia, and 1 of the 2 also had an urticarial rash. No deaths or serious complications have been reported. Laboratory examination of stool specimens from ill persons have not identified an etiologic agent.

The surveys showed 2 epidemic peaks, 1 on June 25 and the other on July 1. Forty-eight hours before each peak, there was an influx of newly arrived persons into the park. Fourteen persons of a group of 15 who toured the park together on July 4 became ill 48 hours* after arriving at the park and 24 hours* after returning to their homes. The ill persons consumed food served at 4 separate park facilities; these facilities had separate kitchens, foodhandlers, and sources of food. All ill persons used water from a central source that was distributed after chlorination. The 1 person in the group who did not become ill drank no water while at the park and did not eat at the park facilities; further investigation identified 5 other non-ill persons from different tourist groups who had similar histories. Among the 317 employees surveyed, there was a highly significant association between water consumption and illness ($p < 0.000001$) (Table 1).

Table 1
Gastrointestinal Illness by Amount of Water Consumed
Crater Lake National Park, Oregon – June 16-July 11, 1975

Number of Glasses of Water Consumed	Number Ill	Number Well
0	10	12
≥1	285	9

Water samples obtained from the water distribution system on and after June 30 were contaminated with coliform organisms. On July 2 a higher dose of chlorine was added, however, although some parts of the distribution system had chlorine levels of 1-2 parts per million, other parts had no measurable chlorine levels. Inspection of the sewerage system on July 10 revealed a rock blocking the sewage flow, resulting in an overflow which eventually entered the water system at the source of the water. A dye study confirmed that the source of the contamination was the blocked sewer line.

*median values

Control measures have included 1) closing the park, 2) correcting existing defects in the water and sewerage systems, and 3) initiating a total reevaluation of these 2 systems.

(Reported by John A. Googins, MD, State Epidemiologist; G. Edward Barnes, District Sanitarian, Michael O'Neal, Regional Engineer, Willard S. Titus, Sanitarian, Kay Yarabinec, Nurse Consultant, Peter Von Ohlen, Sanitarian Engineer, and Katherine Jones, Assistant Epidemiologist, Oregon Health Division. Richard Sims, Superintendent, and Jeff Adams, Facilities Management Officer, Crater Lake National Park. David Bussen and Gina Wright, Sanitarians, Klamath County Health Department, Oregon. Bruce Stubblefield, Director, Jack Stump and Patricia Billig, Staff Members, Youth Conservation Corps, Gunther F. Craun, Sanitary Engineer, Health Effects Research Laboratory, Environmental Protection Agency, Cincinnati. Bill Mullen, Chief, Drinking Water Programs Branch, Environmental Protection Agency, Seattle, Washington. Michael Jensen, Sanitary Engineer, National Park Service, Denver, and Public Health Service -National Park Service Environmental Sanitation Program, Department of the Interior, Washington, D.C., and Members of the Staff of the Bureau of Epidemiology, CDC, and an EIS Officer.)

Editorial Note

Epidemiologic and environmental investigation strongly suggest that this outbreak was caused by contaminated water. Because of the possible risk of exposure to hepatitis A, CDC notified all State and territorial epidemiologists on July 11, 1975, informing them of the epidemic and CDC's recommendation that all persons exposed to the drinking water be identified if possible and given immune serum globulin (ISG) prophylaxis for hepatitis A. Also, all guests who registered in the park from June 10 through July 11 are being contacted by the park service and advised of these recommendations.

In most instances hepatitis A has not occurred after herald waves of gastroenteritis caused by acute sewage contamination of drinking water (*1*). Therefore, the use of ISG following waterborne outbreaks of gastroenteritis has not been routinely recommended. However, careful surveillance of the exposed population is always recommended, as is the institution of ISG prophylaxis if and when the first case of hepatitis is recognized among those at risk.

The recommendation for use of ISG in this instance was based upon these facts: 2 early suspect cases of hepatitis had been identified in permanent park residents, the degree of sewage contamination of the drinking water was considered great, there was evidence that a park visitor had been incubating hepatitis A during his approximate 24-hour stay at the park facility, and adequate surveillance of the population at risk would be difficult at best.

To date, blood samples have been obtained for SGOT determinations from 81 fulltime park residents, and although no cases of hepatitis have been identified, ISG is still recommended for those who were possibly exposed.

Reference

1. Mosley JW, Galambos JT. Viral hepatitis. In Diseases of the Liver, 3rd ed, edited by Schiff L. Philadelphia, JB Lippincott Co, 1969, p 479.

Reprinted from MMWR, Vol. 24, No. 28, July 12, 1975.

FOLLOW-UP ON OUTBREAK OF GASTROINTESTINAL ILLNESS AT CRATER LAKE NATIONAL PARK – Oregon

No etiologic agent has yet been demonstrated as the cause of the intestinal illness associated with sewage-contaminated water, that occurred among persons at Crater Lake National Park (MMWR, Vol 24, No 28) Rectal swabs and stool specimens from 30 acutely ill persons were negative for salmonellae, shigellae, vibrios, *Yersinia enterocolitica*, and orbivirus. Tests for toxigenic *Escherichia coli* and enteric viruses are in progress.

Three persons with hepatitis who became ill shortly after visiting the park were probably incubating the disease at the time of their visit, 2 of these 3 were reported to have used the park toilet facilities. Surveillance of the exposed population for hepatitis has been initiated by State and Territorial Epidemiologists and by CDC. No definite post-exposure cases of hepatitis among the persons exposed to the water at Crater Lake during the outbreak have been identified If any persons develop hepatitis between 2 to 6 weeks after exposure at Crater Lake National Park, they are asked to report their illness to their state health departments and to CDC

(Reported by members of the Oregon State Health Division and the California State Department of Health, and an EIS Officer)

Addendum

The following persons who contributed to the investigation of this outbreak were inadvertently omitted from the list of persons mentioned in last week's MMWR Mary Murphy, RN, Nurse Epidemiologist and Monroe Holmes, DVM, Public Health Veterinarian, Oregon State Health Division

Reprinted from MMWR, Vol 24, No 29, July 19, 1975

FOLLOW-UP ON OUTBREAK OF GASTROINTESTINAL ILLNESS AT CRATER LAKE NATIONAL PARK – Oregon

Preliminary laboratory results indicate that a bacterial infection may have caused some of the diarrheal illness in persons who became ill after drinking water from Crater Lake National Park Enterotoxigenic *Escherichia coli* were isolated from 11 of 29 rectal swabs taken from ill persons, rectal swabs from 2 well persons were negative. Of 31 toxigenic strains isolated from the 11 ill persons, 30 were serotype O6 All toxigenic isolates were sensitive to all antibiotics tested, including ampicillin and tetracycline

Strains were identified at CDC as toxin producers using adrenal-cell (*1*) and Chinese hamster ovary (*2*) tissue-culture techniques and an infant-mouse assay (*3*). These recently developed assays are not currently available in most clinical centers or state laboratories. Further tests to confirm these findings using other assay methods are in progress. Stool samples from other ill and well persons exposed to the park water are also being examined for the presence of toxigenic *E coli* strains. No other bacterial, parasitic, or viral pathogens have been identified

(Reported by the Enteric Virology Branch Viral Diseases Division, Bureau of Laboratories, Enteric Diseases Laboratory Section, Epidemiologic Investigations Laboratory Branch, Bacterial Diseases Division, Bureau of Epidemiology, CDC)

Editorial Note

E. coli is a bacterial species found in the stool of most healthy persons. Enterotoxigenic strains produce toxins known to cause diarrheal disease lasting several days or longer Although toxigenic strains have occasionally been isolated from well persons, the presence of a toxigenic strain is usually associated with illness. A recent unpublished CDC study of diarrhea among travelers to Mexico revealed that before their visit none of 116 participants from various parts of the United States had toxigenic *E coli* in their stools After their visit 19 (32%) of 59 ill persons had toxigenic *E coli* in their stool In another study, none of 133 United States students had toxigenic *E coli* in their stool upon arrival in Mexico (*4*) Subsequently toxigenic *E coli* were isolated from 26 (72%) of 36 students with diarrhea, and 6 (15%) of 41 students who remained well

References

1 Donta ST, Moon HW, Whipp SC Detection of heat-labile *Escherichia coli* enterotoxin with the use of adrenal cells in tissue culture Science 183 334-336, 1974

2 Guerrant RL, Brunten LL, Schnaitman TC, Rebhun LI, Gilman AG Cyclic adenosine monophosphate and alteration of Chinese hamster ovary cell morphology a rapid, sensitive *in vitro* assay for the enterotoxins of *Vibrio cholerae* and *Escherichia coli* Infection and Immunity 10 320-327, 1974

3 Dean AG, Chung YC, Williams RG, Harden LB Test for *Escherichia coli* enterotoxin using infant mice application in a study of diarrhea in children in Honolulu J Infect Dis 125 407-411, 1972

4 Gorbach, SL, Kean BH, Evans DG, Evans DJ Jr, Bessudo D Travelers diarrhea and toxigenic *Escherichia coli* N Eng J Med 292 933-936, 1975

Addendum

The following persons who contributed to the investigation of this outbreak were inadvertently omitted from the list of persons mentioned in MMWR, Vol 24, No 28 Jeannette Bobst, RN, Nurse Epidemiologist and Carol Ford, Epidemiologic Assistant, Lane County Health Department, and William Leslie, Public Health Representative, Oregon State Health Division

Reprinted from MMWR, Vol 24, No 31, August 2, 1975

Appendix IX

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE: (404) 633-3311

July 23, 1975

Dear

From June 13 to July 11, 1975, 295 (92%) of 320 resident personnel and family members at Crater Lake National Park developed an intestinal illness with diarrhea (92%), cramps (76%), nausea (66%), vomiting (66%), chills (48%), headache (46%), muscle ache (45%), and fever (41%). Among these ill persons, 73% missed work, 11% consulted a physician, and none was hospitalized. Information collected from 101 of the approximately 900 visitors who stayed overnight at the park from July 4 to 9 revealed that 72 (72%) of them had experienced a similar illness. Data from individuals who had single short exposures to the park indicated that the incubation period of the illness was approximately 48 hours. The median duration of illness among park personnel was 8 days.

An etiologic agent has not been identified. Examination of rectal swabs and stool samples collected from 30 persons indicate that the illness was not caused by salmonellae, shigellae, vibrios, Yersinia enterocolitica, or orbivirus. Tests for toxigenic Escherichia coli and enteric viruses are in progress.

Among both park personnel and visitors, illness was highly associated with water consumption at the park ($p < .000005$). Water samples obtained from the water distribution system on and after July 1 were contaminated with coliform organisms. Inspection of the sewerage system on July 10 revealed an obstruction to sewage flow that resulted in an overflow of sewage into the park's watershed. A dye study confirmed that the source of contamination was the blocked sewer line.

Control measures included: 1) closing the park, 2) correcting existing defects in the water and sewerage systems, and 3) initiating careful surveillance of the park's water system. (A detailed list of recommendations made to the Park Superintendent at the time of the investigation is attached.) Because of the risk of exposure to hepatitis A, CDC recommended that all persons exposed to the drinking water be given immune serum globulin prophylaxis for hepatitis A.

Surveillance of the exposed population for hepatitis has been initiated by State and Territorial Epidemiologists and by CDC. Two hepatitis cases who had become ill prior to their visit used the park's toilet facilities to dispose of potentially infectious feces. However, surveillance has not identified any definite post-exposure cases of hepatitis among the estimated 100,000 persons exposed to Crater Lake during the outbreak.

Jeffrey P Koplan /mh

Jeffrey P. Koplan, M.D.
Medical Epidemiologist
Field Services Division
Bureau of Epidemiology

Mark L. Rosenberg

Mark L. Rosenberg, M.D.
Enteric Diseases Branch
Bacterial Diseases Division
Bureau of Epidemiology

Enclosure

Appendix X

MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

TO THE RECORD

DATE: August 21, 1975

FROM : Enteric Diseases Branch
Bacterial Diseases Division

SUBJECT: Follow-up Investigation of Gastrointestinal Illness at Crater Lake National Park, Oregon

On August 13, 1975, Richard H. Sims, Superintendent, Crater Lake National Park, requested epidemiologic assistance from CDC to evaluate ongoing illness at the park. After discussions among John A. Googins, M.D., Oregon State Epidemiologist, George F. Mallison, M.P.H., Acting Director, Bacterial Diseases Division, Paul A. Blake, M.D., Assistant Chief, Enteric Diseases Branch, Bacterial Diseases Division, and Mark L. Rosenberg, M.D., Enteric Diseases Branch, Bacterial Diseases Division, Dr. Rosenberg departed for Crater Lake National Park on the morning of August 14, 1975. That evening at the park a questionnaire was distributed to 250 park employees and resident family members representing approximately 70% of park personnel residing in the park at that time. Tabulation of the responses by approximately 225 persons (63% of resident personnel) indicated that 203 of 214 persons (95%) had been ill with diarrhea or vomiting in June or July. Eighteen persons (8%) were ill with either diarrhea or vomiting on August 14; the symptoms of 8 of these persons had persisted from June or July; 9 had been well for at least a week before becoming ill again; one person could not decide whether his symptoms were persistent or recurrent.

Five cases of illness were reported among 8 guests who had stayed overnight at the home of a park ranger who had himself been ill earlier, and whose 9 month old infant had diarrhea when the guests had visited. Only 2 cases of illness had been reported from approximately 1,000 carloads of park visitors who had been requested to report any gastrointestinal illness which occurred after visiting the park. All of the above evidence indicated that there was no new epidemic; the recurrences and illness among park visitors were compatible with person-to-person spread.

Rectal swabs were obtained from approximately 10 ill persons and from several persons who were currently well. The water system was inspected and found satisfactory by Willard Titus of the Oregon State Health Division, and Roy Jones, E.P.A. regional representative. No coliform contamination had been found in over 100 finished water samples taken since the park reopened on August 1, 1975.

An investigation is being conducted by the Senate Interior Committee and a hearing is scheduled for September 6 in Medford, Oregon. Drs. Jeffrey Koplan and Mark Rosenberg spoke with Mr. Walter Fialkewicz, Committee Investigator, on August 20. Mr. Fialkewicz wanted to know:

1. Why the park was not closed when a report of a park system water sample taken July 1 showing fecal coliform contamination was shown to Drs. Rosenberg and Koplan on July 8, 1975. I replied I did not feel one contaminated sample was sufficient evidence that water was responsible for the outbreak.

2. Why did CDC personnel (Drs. Gangarosa and Brachman) decide not to close the park after speaking with Drs. Koplan and Rosenberg on July 9 and 10. He plans to speak with Drs. Gangarosa and Brachman to get this information.

Mark L. Rosenberg, M.D.

cc:
Dr. Sencer
Dr. Brachman
Dr. Gangarosa
Dr. Blake
Mr. Barreth
Dr. Koplan
Dr. Morris
Ms. Wells
Dr. Wachsmuth
Mr. Martin

FOR RELEASE ONLY UPON DELIVERY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

STATEMENT

BY

EUGENE J. GANGAROSA, M.D.

BUREAU OF EPIDEMIOLOGY
CENTER FOR DISEASE CONTROL
PUBLIC HEALTH SERVICE

BEFORE THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
UNITED STATES SENATE

SATURDAY, SEPTEMBER 6, 1975

61-348 O - 76 - 10

Mr. Chairman and Members of the Committee:

I should like to present a summary of the actions of the Center for Disease Control in investigating the outbreak of illness that occurred at Crater Lake National Park in June and July of this year. A detailed chronology of these events is submitted for the record.

CDC was first notified of the illness at Crater Lake National Park on July 3, 1975, by John E. Googins, M.D., Oregon State Epidemiologist. Assistance in investigating the outbreak was requested by Dr. Googins on July 5. One medical epidemiologist from CDC arrived at the park on July 7 and a second epidemiologist on July 8 to evaluate the problem. At this time, preliminary laboratory studies had not identified any common disease organism among ill persons, and it was impossible to determine how the illness was being spread. Many potential ways that the illness could be spread needed to be investigated. The most likely ways were person-to-person contact, through contaminated food, or through contaminated drinking water. The mode(s) of transmission in effect at Crater Lake National Park could only be determined by epidemiologic investigation. Such a determination is necessary to identify effective control measures.

Interviews, telephone conversations, and questionnaires were used to determine the frequency and nature of illness among visitors to the park, residents of the park, and household contacts of persons who visited the park. It was also necessary to determine if the disease existed in nearby communities or was restricted to the park. This was done by contacting physicians in neighboring communities. Information was collected from both ill and well persons in order to establish the potential role of person-to-person spread, food, or water in the outbreak. Available data on the sewage and water systems at the park were reviewed and laboratory specimens were obtained from ill and well persons.

By July 10, an evaluation of the epidemiological data collected established that about 90% of the park employees had experienced an illness characterized by nausea, vomiting, cramps and diarrhea. On this date it was also established that no unusual incidence of similar illness was present in nearby communities. It was also possible to exclude a food product as the likely source because no food product or source of supply could be found that would account for such widespread illness. However it was possible that illness might be caused by food contaminated by ill food handlers. The remaining possibilities were that the illness was waterborne or spread by person-to-person contact. The latter possibility could not be ruled out because of reports of illness among family members of park personnel who had never visited the park. It was possible that the park was associated with illness

simply because it was a gathering place for susceptible people. Late in the day enough data had been collected to 1) compare rates of illness among water drinkers and non-drinkers and in this way determine with statistical validity that contaminated water caused illness among visitors to the park, and 2) determine that gastrointestinal illness continued to occur among persons who visited the rim area on July 7 and 8, suggesting that illness was spreading by other routes, or that the water remained unsafe despite acceptable levels of chlorine. This evidence was obtained concurrent with the discovery of a blockage in the sewer system.

On the morning of July 11, the data developed during the previous day was reported by telephone to CDC in Atlanta. CDC advised the National Park Service that the park should be closed until the problem was resolved. A press release was issued announcing the closing.

This was the first documented waterborne outbreak caused by a toxin-producing strain of Escherichia coli. Waterborne disease caused by toxin-producing E. coli has never before been recognized in this or any other country. Although this organism may have caused similar outbreaks in the past, laboratory methods to identify it have only recently become available. Laboratory and epidemiologic studies of this outbreak are continuing to further assess person-to-person, foodborne, and waterborne transmission. Further evaluation of the Crater Lake data to determine the effectiveness of chlorination in preventing disease is of special future importance to public health.

Mr. Chairman, that concludes my statement. I shall be glad to respond to any questions which you have.

Senator HATFIELD. Dr. John Googins?
Dr. GOOGINS. That is pronounced Googins.
Senator HATFIELD. Googins?
Dr. GOOGINS. Yes.
Senator HATFIELD. And we will identify Mr. Willard S. Titus.
Mr. TITUS. That is me.
Senator HATFIELD. Mr. Titus, you are senior sanitarian, water supply, from the Oregon State Department and Health?
Mr. TITUS. That is correct.
Senator HATFIELD. Mr. Edward Barnes, and you are senior sanitarian, food and tourist facilities, expert inspector?
Mr. BARNES. Regional sanitarian inspector in this area. I work in most all the programs in environmental health.
Senator HATFIELD. Dr. Googins, what is your area of specialty?
Dr. GOOGINS. Epidemiology, sir.
Senator HATFIELD. When was this matter at Crater Lake first brought to your attention?
Dr. GOOGINS. It was first brought to my attention on July 1 by a member of my staff, Dr. Holmes.
Senator HATFIELD. And how was it described to you at that time on July 1?
Dr. GOOGINS. It was described by Dr. Holmes. First of all he was in our laboratory and a question was raised as to why four specimens from YCC personnel at Crater Lake Park had been sent in to our department. And we contacted the Klamath County Health Department, and there apparently had been some illnesses in this group.
Senator HATFIELD. Your department has no jurisdiction in this particular area?
Dr. GOOGINS. That is my understanding, sir; yes.
Senator HATFIELD. Had you ever had any work, any professional work in the area of Crater Lake lodge?
Dr. GOOGINS. No.
Senator HATFIELD. So, what was the first action you took following this information on July 1?
Dr. GOOGINS. Inasmuch as there was some mention of water as being a possible transmitting factor, I talked with—as a matter of fact Dr. Holmes talked first with LaVern Miller, who heads up our protective health services division, concerning what we should do about getting some examination of the water system. It developed Mr. Miller said water in the park was basically under the jurisdiction of the EPA and we should contact Mr. William Mullen of that department. This was done by Dr. Holmes on July 1. As I understand, Dr. Holmes, relating that conversation, indicated permission was given by Mr. Mullen for a sanitation engineer from the State health division to proceed to the park. This happened on July 2.
Senator HATFIELD. Then the next step after you got to the park?
Dr. GOOGINS. After he got to the park?
Senator HATFIELD. Right.
Dr. GOOGINS. Basically he was sent here to evaluate the water system. I awaited the report from him as to what his findings were.
Senator HATFIELD. What date did you receive his report?
Dr. GOOGINS. The first report I received was a verbal report which came to me on July 3.
Senator HATFIELD. What was a summary of that verbal report?

Dr. GOOGINS. The verbal report, which came through an intermediary was that there didn't seem any reason to believe the water at the park was responsible for the illnesses.

Senator HATFIELD. It was not evident at this time?

Dr. GOOGINS. Correct.

Senator HATFIELD. All right, what was the next step?

Dr. GOOGINS. Well, at that point?

Senator HATFIELD. You had a verbal report to that effect, when did you get it as a written report?

Dr. GOOGINS. The written report came sometime in the middle of the next week which indicated actually he had found some problems with the water system.

Senator HATFIELD. Can you submit the report for the record?

Dr. GOOGINS. Yes; I can.

Senator HATFIELD. That report that arrived, what would that have been, about the 6th?

Dr. GOOGINS. I believe the report was dated the 8th.

Senator HATFIELD. All right. Well, you recommended the park to be closed on the 8th?

Dr. GOOGINS. No, that is not quite right, sir.

Senator HATFIELD. All right.

Dr. GOOGINS. We became concerned about additional reports of illness which were occurring among Crater Lake contacts. We were getting reports in our office in Portland. These reports indicated that individuals who had been there since the time I had been there on July 4 were becoming ill. Also, we had the story you are already familiar with that was related by Mrs. Yarabinec concerning the tour bus. This concerned us. And also on the 8th I got a story from Mr. Cheryl Davidson of our food section that someone reported to him that had been in the park that they had observed what appeared to be ill food handlers working in the concessions at the rim—and the definition of "ill food handlers" was these were people who were observed who were swigging out of bottles of kaopectate. For that reason we became concerned about recommending that the eating facilities and the lodge be closed. This was on the 8th.

We did not recommend this be done on the 8th. We looked into the possibility—we tried to develop what channels we were going to have to go through to get our recommendation to somebody's attention and it took the rest of the day and numerous phone calls and the effort of Mr. Miller and our local director of the Food and Drug Administration to determine it would be the person in charge of the National Park Service we would have to approach. The reason for our indecisiveness about who to approach about closing the facilities, at that time we were under the impression the food services of the park were under the jurisdiction of the Food and Drug Administration and that the water was under the jurisdiction of the EPA.

Senator HATFIELD. The first trouble report you had indicated water was probably not the source of the problem?

Dr. GOOGINS. Correct.

Senator HATFIELD. That was only July 3?

Dr. GOOGINS. The 3d.

Senator HATFIELD. The same person who made that report to you was Mr. Peter Von Ohlen. Following that oral preliminary report

that he made, additional investigation information he submitted to you in writing dated July 8 contradicted and revised his previous general preliminary report, is that correct?

Dr. GOOGINS. That is the date of the report, I am sure I didn't receive it on the 8th.

Senator HATFIELD. You received it——

Dr. GOOGINS. Must have been on the 9th or 10th.

Senator HATFIELD. Did he convey to you his new evidence or new material?

Dr. GOOGINS. No; he did not.

Senator HATFIELD. So as far as Mr. Peter Von Ohlen is concerned, on July 8 you did not have this information?

Dr. GOOGINS. That is correct.

Senator HATFIELD. The only information you had from him was negative to the water supply?

Dr. GOOGINS. That is correct.

Senator HATFIELD. Then you had reports that persons were using kaopectate in the kitchen or food handling area?

Dr. GOOGINS. Yes, sir.

Senator HATFIELD. And that was on the 8th?

Dr. GOOGINS. Yes, sir.

Senator HATFIELD. And what other evidence did you have that began to raise this point in your mind that the park might best be closed?

Dr. GOOGINS. We are not talking about the park.

Senator HATFIELD. The park facilities.

Dr. GOOGINS. The park facilities. Basically it was just as I have described to you, the description of food handlers who were possibly ill working.

Senator HATFIELD. That evidence came to you from whom?

Dr. GOOGINS. Mr. Cheryl Davison.

Senator HATFIELD. Mr. Davison gave you that information via the phone?

Dr. GOOGINS. No, he came to my office on the 8th.

Senator HATFIELD. What date was it that he had observed these happenings in the kitchen?

Dr. GOOGINS. His report was based on the observations of someone who was here in the park and who had reported this to him.

Senator HATFIELD. Well, then his information was not from his observation?

Dr. GOOGINS. Correct.

Senator HATFIELD. Do you consider that a sufficient statistical example to make such a recommendation, for an employee who heard from someone else somebody in the kitchen was using kaopectate in the food handling activity, that would lead you to think about closing the facilities in the park? Is that what you're saying to me?

Dr. GOOGINS. I am saying that was probably the thing that triggered the special consideration for the food facilities.

Senator HATFIELD. Well, it was the food facilities, Dr. Rosenberg and Dr. Koplan had recommended to Dr. Gangarosa to close those same facilities, but certainly not on just a rumor—not rumor, but on some secondhand evidence there had been some kaopectate being used.

Dr. GOOGINS. I would agree they were in a better position than I was to make a recommendation, but I still felt concerned because of

the report and because we were getting additional reports of illness, and I felt the issue of transmission had not been settled.

Senator HATFIELD. And you had heard about all these other sick people that had been in the park and on the tour bus and so forth?

Dr. GOOGINS. Yes, sir.

Senator HATFIELD. What other evidence did you have to make you think maybe you should recommend closing the facilities in the park?

Dr. GOOGINS. The main thing I am basing my feeling upon is the fact of the report I mentioned to you from Cheryl Davison, plus reports of people who had been made ill following my visit to the park on July 4. That is the only evidence that I had.

Senator HATFIELD. Had you checked around in any of the surrounding communities as to any data or evidence that would apply to this particular problem in the park?

Dr. GOOGINS. Yes, sir. I got the information on July 4 from several sources in the park that this was simply something of a larger happening in the area, that there were additional cases in the communities. To check this out I contacted the local health departments of the communities surrounding the park and could not get any evidence that this was actually happening from any organization.

Senator HATFIELD. What would have happened in your estimation if that recommendation had been made on the 8th in a State park over which you would have had some jurisdiction and it was closed, then on continued or subsequent investigation it was determined it was brought in from outside the park and the park facility had nothing to do with it, would you lose your job or would you feel threatened?

Dr. GOOGINS. To a certain degree, but nevertheless we would have recommended it.

Senator HATFIELD. On what value judgment would you take that risk? What would make you take that risk? Wouldn't you want to protect your professional standing or credibility? What greater value would you apply to taking this risk?

Dr. GOOGINS. Basically I think if I felt the public was threatened by something going on in a park I would take that action.

Senator HATFIELD. If this were a State park, what would have been your action?

Dr. GOOGINS. I would have recommended closing.

Senator HATFIELD. When you were puzzling as to where the chain of command was vested did you think about calling the superintendent of the park, Mr. Sims?

Dr. GOOGINS. Well, I didn't think—I didn't call him in connection with that specific problem; no. I didn't think of calling him as a matter of fact, for that specific problem.

Senator HATFIELD. Why?

Dr. GOOGINS. I don't know. I don't know why.

Senator HATFIELD. In other words, you're in a staff situation in your organization, and you would more or less think naturally in communicating with or contacting correlated staff people in other organizations, would that be your reason?

Dr. GOOGINS. Yes, sir. I knew and I was being told there were these divided responsibilities in the park, and I was thinking in terms of who in the heading of each of these responsibilities we were going to have to contact.

Senator HATFIELD. What would this report have meant to you if you had read the report by the Klamath Basin Soil & Water Testing Laboratory?

Dr. GOOGINS. On the water sample by itself, it strictly would have raised the flag of caution by itself. If I had it to relate it to a number of tests, or had special knowledge about problems in the water system, I would have become alarmed.

Senator HATFIELD. On what date did you make the formal recommendation of closing the facilities in the park?

Dr. GOOGINS. On July 9, I called Dr. Koplan to tell him we were concerned that the park be closed. He at that time indicated that he was concerned also, but that he felt they would need an additional 12 hours during which time they hoped to demonstrate that continued transmission was occurring over the weekend, that is Sunday and Monday of that week, that would have been the 6th and 7th of July.

Senator HATFIELD. Twelve hours would have put it on the 10th?

Dr. GOOGINS. No; I called him in the morning on the 9th, and that would have been the evening of the 9th.

Senator HATFIELD. When did you next talk to Dr. Koplan?

Dr. GOOGINS. The next time I talked to him was on the morning of the 10th. He called me, as I recall it, to relate they had decided that the park would be closed—he and Dr. Rosenberg had decided the facilities would be closed, excuse me, not the park, and he mentioned certain other things that were going along with that which I do not recall.

Senator HATFIELD. This would have been prior to their conversation with Dr. Gangarosa?

Dr. GOOGINS. Well, sir, I'm uncertain as to this, and I know my version of it differs with theirs, but as best I recall, then I asked if they had cleared this decision with CDC and was told they had cleared it.

Senator HATFIELD. This was on the morning of the 10th?

Dr. GOOGINS. This was early on the morning of the 10th.

Senator HATFIELD. But you interpreted the statement to mean the decision had been made and it was in the process of being executed to close the facilities in the park based upon medical and other scientific data?

Dr. GOOGINS. Yes, sir, that is the way I interpreted it, and that is the way I transmitted it to my superiors.

[The information referred to by Dr. Googins follows:]

DEPARTMENT OF HUMAN RESOURCES,
HEALTH DIVISION,
Portland Oreg., July 8, 1975.

Mr. RICHARD SIMS,
Park Superintendent, Crater Lake National Park,
Crater Lake, Oreg.

DEAR SIR: On Wednesday and Thursday, July 2 and 3, an engineering survey was run on two of the water systems that serve Crater Lake National Park. All the rest of the systems in the park are inaccessible (normal) because of snow pack at this time of year. The two systems surveyed were Annie Springs which serves a residence and the Mazama Camp Ground near the park entrance and Munson Springs which serves the Rim Village and headquarters area.

The survey was conducted after consultation with EPA and prompted by reports that a pervasive occurrance of a resilient "flu" was taking place at the

park and rumors were being spread regarding the water supply, food service, etc. Richard Sims, Park Superintendent; Jeff Adams, Facilities Management Officer; and Frank Whitaker of the park staff were helpful in conducting a thorough survey of the two water systems.

The survey confirmed that an extensive outbreak of "flu" had occured at the park affecting some 80% or more of the permanent and temporary personnel employed by both the park and the concessionaire in the Rim Village. Roughly 180 of about 250 total personnel and family are seasonal employees that had arrived two to three weeks before the survey was made. The outbreak had peaked about a week before the survey was made and had been characterized by rather intense vomiting and diarrhea along with dehydration that was severe enough in at least several cases to prompt medical attention. The illness usually lasted two to three days and in a fair number of cases would reoccur with lesser intensity a day or two later. Mr. Whitaker had gone to a hospital on the previous Saturday evening having suffered the above symptoms prior to that time and felt the illness and dehydration had become intense enough to require medical attention. It was reported that doctors consulted treated it as intestinal flu and it was alleged that at least some people in surrounding communities had similar illnesses. The concessionaire, Mr. Payton, also alleged that guests were checking into the lodge ill on arrival.

The Rim Village lies on the south, southeast side of Crater Lake and the headquarters complex is less than a mile (overland) south but considerably below the Village. Munson Spring lies about 2300 feet south of the Rim Village or about halfway between the Village and the headquarters complex. Flow in this spring varies from 23 GPM in the winter to about 200 GPM in July or at this time of year. Water probably comes from a large pumice "flat" that lies south of the main lodge; the high flow at this time of year is attributed to the rapid melting runoff and infiltration of the 20 foot snowpack that accumulates during the winter. At the time of this survey Munson Springs, which lies at about 6500 feet of elevation, still had six to eight feet of snowpack covering it. The collection works at the springs consists of a series of gradated infiltration boxes and a collection box lying just north (uphill) of the access road and buried about six to ten feet deep. Water from the collection box passes by 8" pipe underneath the road to a 24,000 gallon concrete buried reservoir. This reservoir is old but stated to be in good condition. A pump and chlorination house is located just south (below) the reservoir. The pump house is kept open all winter and was the only part of the source facilities that was accessible at the time of survey because of the snowpack. Chlorine is added by hypo-chlorinator at the intake pipe to the source reservoir, and as maximum flow through the reservoir is about 200 GPM, this obviously provides more than adequate contact time.

Maximum usage for the Rim Village and headquarters complex is about 70 GPM with 50 GPM going to the Rim Village and the rest to the headquarters complex. The question was naturally raised of why chlorinate 200 GPM when only 70 GPM is needed. With the snowpack problems and the physical makeup of the system, there is no method presently available for wasting the excess prior to chlorination. Thus all the water coming out of the collection system is chlorinated and the excess is eventually wasted at one of the reservoirs in the gravity system that serves the headquarters area. The large fluctuation in flow (23 GPM to 200 GPM) presents some problems in obtaining adequate chlorination and appears wasteful of chlorine and equipment at high flow rates. Any system put in to control flow and usage would have to be very reliable or provide winter access.

The Rim Valley is composed of the main lodge on the east end, a dormitory southwest of the lodge, a cafeteria and other shops in one building about a thousand feet west of the lodge along the rim and several smaller buildings scattered in between. From the middle of this complex a ridge runs south and to the west of the headquarters area and divides drainage from the area into two basins. Munson Springs lies in the east drainage. The lodge and dormitory are also in the east drainage. Until ten years ago the lodge was served by a septic tank to its east southeast with natural drainage to the east into a canyon. Ten years ago this system was abandoned and a sewer line was laid from the lodge to the southwest across the pumice flats a thousand or more feet above Munson Springs. The integrity of this sewer line through the pumice flats above the springs should be adequately assured at all times. The snowpack prevented access at the time of the survey. This sewer line serves the two year old dormitory and was constructed of mechanical joint, cast iron, 150 psi mortor lined water pipe. It crosses

the ridge line and follows an old road bed down the mountain and eventually crosses back under the headquarters transmission line above the two old reservoirs on this system. The sewer system serves the headquarters area and then flows to lagoons below the area.

At the time of the survey I was under the mistaken impression that the sewer line was only two years old and did not cross fully above Munson Springs. On checking with Mr. Adams the middle of the next week, it was clarified that the two years referred to new water pipes in the Rim Village and the sewer was actually ten years old. The ten year age naturally raised the question of periodic maintenance, especially since this is a system subject to very little or no use most of the year. Annual checks on seasonal systems may be advisable prior to high summer usage.

The cafeteria and western portion of the Rim Village is served by a septic tank and drainfield that lies to the south southwest of the cafeteria and below the access road. The tank and drainfield lie in the west drainage basin and there is no possibility of contamination of Munson Springs. There is a holding tank that is periodically pumped that lies in the west drainage also.

High lift pumps remove water from the source reservoir and pump up the mountain about 600 vertical feet through a 4" steel pressure main to the Rim Village distribution system. This distribution system is composed of 8, 6, and 4 inch pipe, most of which is looped and a 185,000 gallon relatively new concrete reservoir that floats on the end of about 1700 feet of 8 inch pipe. Most of the 8 and 6 inch pipe is two years old as is the Rim Reservoir and the 4 inch is part of the old system. A 5 GPM spring above the Rim Reservoir has not been used for some years.

Past pressure readings indicate a working pressure of about 90 psi in the Rim Village. Chlorine readings taken on Thursday morning of the survey showed a 1.4 ppm in the Rim Reservoir and 2.0 ppm at the main lodge and cafeteria kitchens.

The headquarters area is served by gravity from the source reservoir. The headquarters complex is composed of a dozen or more residences for park personnel, a maintenance building, a building presently housing about 30 YCC personnel, the headquarters building and several other lesser buildings. About halfway between the source and the service area are two old concrete reservoirs. One is 4500 gallons and the other is 22,000 gallons and it is at this point that the excess chlorinated water is wasted by constant overflow. Below these reservoirs and to the west several hundred feet is a new 150,000 gallon steel reservoir with altitude control valves that float on a new 4 inch cast iron line. No chlorine residual was obtained at this steel reservoir or in the headquarters building on Thursday morning of the survey. Inability to maintain a chlorine residual in the headquarters area is not a new problem but apparently no satisfactory explanation and/or solution has ever been advanced to explain this anomaly. Our regional engineer from Bend did find a trace at the headquarters on Saturday morning (July 5) and Mr. Adams had reported the same trace on subsequent days. Dilution, aeration and/or stagnation could be possible causes of no chlorine residual or it may be something else entirely. The method and point at which chlorine was added was discussed thoroughly to determine if "short circuiting" was taking place, but apparently not. "Short circuiting" would also cause insufficient contact time. The combined storage of 176,500 gallons is apparently more than adequate and may lead to stagnation during low use. Aeration is a possibility if open channel flow should occur in the transmission line between the source reservoir and where wasting takes place or turbulence in the reservoirs caused by the wasting process. Dilution was also considered as Headquarters' Spring was part of the system at one time but Mr. Adams was sure that this spring had been abandoned and totally disconnected some years ago.

What was recommended and has been mentioned above is that wasting take place at Munson Springs prior to chlorination; that what is needed to satisfy the upper and lower systems demands (and only that amount) be taken, properly chlorinated by proportional flow chlorination with sufficient contact time, and then properly stored and transmitted in a fully closed and adequately pressurized system. The above is perhaps easier said than done though.

Park usage has remained fairly constant for the past ten to fifteen years. The average is about 500,000 visitor people per year and in excess of 90% of these would pass through during the 100 day summer season. Daily usage was stated to be fairly constant or average close to 5000 people per day.

Records kept by park personnel could be improved upon and it is apparent that chlorine residual analysis and sampling procedures are not as well understood as may be desirable. It would seem prudent that record keeping be analyzed for form and content and that steps be taken to assure all personnel of proper training, especially when changes occur. Quality and quantity of equipment and testing materials should be checked also. Maps of the systems are readily available and full chemicals were run on all sources this past February showing full compliance with health standards.

Annie Springs has a flow that varies from about 650 GPM in the fall to 2000 GPM in the early summer. The spring is located a short distance inside the south park entrance and serves one residence and about 200 campsites in the Mazama campground. The spring flows directly out of the side of the mountain and has been formed in concrete to provide good protection for the intake pipes.

The Annie Springs system was completely rebuit two years ago and is only used during the summer season. The system is drained during the winter and this year was recharged on June 23. The intake lines from the spring are buried in the creek bed for several hundred feet. Underneath an access road bridge a pump station has been built and uses 60 GPM pumps to force water into the system. The system is composed of several thousand feet of 4 and 6 inch CI pipe and a 100,000 gallon steel reservoir that floats on the lines. Chlorine is added at the pump station, but no contact chamber is provided, and as the reservoir floats on the system, it does not fulfill this function either. The system is metered and uses 10 to 12,000 GPD average, with a maximum day of about 18,000 gallons. This rate of usage would rule out using the transmission pipes for contact for the campground, and as the residence is only a couple hundred feet from the pump house, time is definitely inadequate.

Chlorine residuals were high when checked on Thursday morning both in the system and at the reservoir. An aberrant reaction to orthotolodine took place during testing but a reading of about 2.0 ppm would seem reasonable. A standard W and T U–2374 comparator was used but in addition to the normal chlorine reaction a red-orange reaction occured that gave some discoloration to the whole vital and would in perhaps 10 seconds collect at the top ¼ to ⅓ of the sample. With the passage of several minutes the red-orange did dissapate in one vital that was not emptied but partial discoloration of the whole remained. The red-orange reaction did take place rapidly, but not so fast as to rule out combined chlorine.

The annual draining and recharging of a system for summer use presents some interesting health problems. It was recommended the system be adequately flushed with a high chlorine level and bacteriologically checked prior to use. This system did show positive tubes in '73 (July, Sept. and Oct.) which is a real anomaly considering the source and would seem to indicate system or technique problems or improper construction and disinfection procedure when the system was rebuilt. It was recommended that raw water samples from all sources be periodically checked and every effort should be made to determine causes for nonconformance.

Known physical limitations in a system; inability to maintain chlorine residuals in areas; periodic bacteriological failures without proper follow up; inadequate and/or questionable technique, training and record keeping all tends to produce an indefensible position without regard to actuality when problems arise in an area and rumors begin to spread.

Should you have any questions on the above, please call us as we would be most happy to consult with you on solutions to the above problems. My thanks again to Mr. Sims, Mr. Adams, and Mr. Whitaker for their full cooperation in conducting the survey.

Sincerely,

PETER VON OHLEN,
Regional Engineer, Public Health Engineering.

ADDENDUM

On last Thursday evening it was discovered that the sewer line was plugged and overflowing a manhole in the "fall line" of Munson Springs. This should be fully covered by reports of personnel on the scene and added to the above survey for a complete picture.

PVO.

REPORT BY DR. JOHN A. GOOGINS, OREGON STATE HEALTH DIVISION

The following is a chronological report of the activities of Office of Disease Monitoring and Control personnel related to the Crater Lake outbreak from the dates July 1 through July 11, 1975.

The information that a problem might exist at Crater Lake was first brought to my attention on July 1 by Dr. Monroe Holmes, Public Health Veterinarian. Dr. Holmes related that he had been asked by Oregon State Public Health Laboratory personnel why four stool specimens from YCC personnel at Crater Lake had been received. Dr. Holmes told me that he had contacted the local health department in Klamath County, Oregon; and had been informed that the stool specimens were submitted from four YCC individuals with gastroenteritis. Thirty additional members of the YCC group had also been ill. There were reports also that Park service personnel and others were ill.

Because water was mentioned as a possible transmitting factor by the Klamath County Health Department informant, Dr. Holmes conferred with LaVerne Miller on the first of July regarding an evaluation of the Park water system. Mr. Miller, Chief of the Office of Protective Health Services informed Dr. Holmes that the water system of the Park was under the jurisdiction of the Environmental Protection Agency and a decision was then made to contact Bill Mullens of that agency. This was done and permission was given by Mr. Mullens to send a sanitary engineer from the Oregon State Health Division to Crater Lake to evaluate the water system. On July 2nd, the public health engineer proceeded to the Park.

Also on July 2nd, I spoke with our laboratory director, Mr. Gatlin Brandon concerning the four specimens which had been received from Klamath County Health Department from the YCC personnel. I requested that these specimens be given special consideration and that I be given a report as soon as possible. The next day, July 3rd, the laboratory results of the examination of the stools for enteric pathogens was reported to be negative. I consulted with Leo Farr, sanitary engineer, concerning a report from the engineer who had been sent to Crater Lake. Mr. Farr informed me that a verbal report from Mr. Peter Von Ohlen was such that he felt the water system could not account for the illnesses. Later that evening, July 3rd, I attempted to call Mr. Von Ohlen at home, but found that he was not in. I had hoped to obtain a first-hand report of his visit to the Park, but found that this was not possible.

In view of the fact that I was faced with negative laboratory results; a sanitary engineer's preliminary verbal report which did not seem to relate water to the illnesses; and reports from the local health department in Klamath County that there were illnesses occurring at Crater Lake; I decided to go to the Park on the following day, July 4th, to get first-hand knowledge of the situation.

My purpose in going to the Park in particular was to get additional laboratory specimens as well as investigate the possibility that some other mode of transmission was producing the illnesses. Therefore, I made arrangements with Mr. LaVerne Miller, Chief of the Office of Protective Health Services, to have a sanitarian meet me at Crater Lake. Later it was decided that a public health engineer, Mike O'Neal would accompany the sanitarian, Ed Barnes, to Crater Lake also. I placed a call the afternoon of July 3rd, to Richard Sims, Park Superintendent, to inform him of my visit and to enlist his cooperation in locating patients for me to interview.

As Crater Lake is a Federal installation, I called the Center for Disease Control in Atlanta, Georgia, and talked to Dr. Lyle Conrad. I indicated to Dr. Conrad that there apparently was an outbreak at the Park, that I was planning to visit the Park on July 4th, and that it was possible that I may have to call him back to request help should the magnitude of the problem warrant it.

I was accompanied to Crater Lake on July 4th by Ms. Katherine Jones, assistant epidemiologist on my staff. On arrival in the Park, we met with the public health engineer, Mike O'Neal and the sanitarian, Ed Barnes. We all proceeded to Mr. Sims' home where we discussed the outbreak. Mr. Sims stated that it appeared that the first illnesses occurred sometime around the 22nd of June. He stated that his own child had been ill with nausea, vomiting and diarrhea on the 24th of June. At that time there was a large influx of seasonal personnel to the Park. A welcome party was held on the 22nd of June in the Community Building in which many of the new arrivals were served cake, ice cream and coffee. The YCC counselors reported on June 22nd and during that week, six of the nine counselors developed nausea, vomiting and diarrhea. The rest of the

YCC personnel reported on June 29th and by the 30th, two of them had become ill. By the first of July, 16 were ill; and by the 2nd of July, 22 out of 30 people in the group had been ill with nausea, vomiting and diarrhea. Mr. Sims had indicated also that Park personnel had been ill. It was his opinion that the peak of the outbreak occurred approximately 6 days or so before our visit to the Park and he felt that they were seeing fewer cases on the 4th of July. He indicated that he had some difficulty in locating enough patients for me to get some specimens from. He felt that this also indicated an improvement in the situation.

After our discussion with Mr. Sims, I asked Mr. Barnes and Mr. O'Neal to inspect the eating facilities on the Rim and in the YCC building. I also asked them to collect any water that they felt might be indicated. I directed Ms. Jones to go with Mr. Sims to examine the absentee records of the Park service personnel and the YCC group to help us establish an epidemic curve to the outbreak. I also asked Ms. Jones to obtain interviews from individuals who experienced the illness as she encountered them.

I proceeded with Mrs. Sims to visit ill persons and to obtain specimens. I interviewed 5 individuals who had onsets of illness which varied from June 24 to July 3. These were permanent or seasonal park personnel only. The symptoms mentioned were nausea, vomiting, diarrhea, abdominal cramping and a feeling of fever and chills. Some of them described a sense of generalized malaise and aching in various parts of the body. Stool specimens were obtained from these individuals for routine enteric bacteriology and viral studies.

Katherine Jones interviewed 9 individuals who presented much the same clinical picture as the ones that I had interviewed. Onsets ranged from 6/23/75 to 7/3/75. An additional 16 individuals who were either family members or close contacts were listed by the individuals interviewed by Ms. Jones as having had illness. We had intended to interview YCC personnel and obtain a record of the outbreak as it had affected this group. We found, however, that all YCC personnel had left the Park and were on an outing in Bend, Oregon to see the Fireworks.

To check on illnesses among the concession staff and guests at the Lodge and cabins, we visited the concession operator, Mr. Ralph Peyton. Mr. Peyton expressed the idea that we were exaggerating something that in his mind was a normal event each year when the Park opens. However, in discussions with him it appeared that in previous years, considerably fewer individuals were ill than this year. Mr. Peyton did inform us that some of his staff had been ill and that he was prescribing doses of Kaopectate for them. He also indicated that the same type of illness was being observed in communities surrounding the Park. This observation was not confirmed, however, by health departments in all of the counties around the Park which I contacted. Mr. Peyton commented also at the time of our visit on July 4th, that the number of concession workers experiencing illness was less than had been the case earlier in the week.

Before leaving the Park, I met with Ed Barnes and Mike O'Neal. Mr. Barnes pointed out that he had checked the kitchens and eating facilities in the Rim area and had found some deficiencies, notably an unusual number of files and icebox which was not the right temperature. He experienced some difficulties with personnel who felt that we did not have jurisdiction to carry out the inspection. Also, water samples were checked for chlorine residual in the area of the Rim and it is my recollection that chlorine residuals were reported as being rather high, something like 2 ppm, but chlorine residuals in the Park Headquarters area were much lower. The YCC kitchen facility was not inspected in as much as it was closed for the reason cited above. Late in the afternoon of July 4th, we returned to Portland. Evidence obtained from our visit to the Park considered by myself to be inconclusive and not indicative of either a continuing outbreak or indicative of the type of transmission which was operative. The belief was that the outbreak was declining. The suspicion that water may have been the source of illness was tempered by the initial comment of the engineer plus the finding of chlorine residuals. It did not appear that food services facilities, even though discrepancies were noted could explain the outbreak which involved three different groups, each having basically a different food service facility. The possibility of person-to-person spread was considered, and this could not be definitely ruled out.

It was apparent, however, that illnesses had occurred among Park residents which were of sufficient frequency and severity to warrant additional investigation. For this reason, I decided to request help from he Center for Disease Control in the form of an Epidemic Intelligence Service Officer who might come to Crater Lake to investigate the outbreak. At the time I made this decision, I

felt we would be investigating an outbreak which had passed its peak rather than an on-going outbreak.

During the morning of July 5th, I took the specimens which I had obtained the previous day to the laboratory. I also called Dr. Eugene Gangarosa of the Center for Disease Control that date; and found that he was not in. Eventually I spoke to Dr. Lyle Conrad and requested help in evaluating the outbreak at Crater Lake. Dr. Conrad indicated that he would make the necessary arrangements and have a physician that was selected to get in touch with me.

On July 6th. Dr. Gangarosa called to inform me that Dr. Jeffrey Koplan from California would be arriving at Crater Lake the following day. Dr. Koplan also called on the 6th to report his arrival time on July 7th.

On July 7th, I called Park Superintendent Sims to report that Dr. Koplan would arrive that day to pick up the investigation where I had left it. I received a call from Dr. Gangarosa indicating that he would like to send a second physician to Crater Lake to assist Dr. Koplan. He mentioned that Dr. Mark Rosenberg would be arriving the following day. Later in the evening of the 7th, Dr. Koplan called me to relate his initial activities at the Park. He stated at that time he was undecided as to the mode of transmission. July 8th, additional reports of illness among Crater Lake contacts were received by my staff in Portland. One report was made to me by Mrs. Kay Yarabinec who is a staff member of the Oregon State Health Division. Ms. Yarabinec reported illnesses in a tour group which had been through the Park. Details of this experience were phoned to Dr. Koplan. On July 8th, also a report of illness was received by Sharrel Davison of the Food Services Section of the Health Division. Report mentioned that food handlers in the food service concessions were noted to be ill while continuing to work. Both Davison and I felt that if this were true, closure ought to be recommended. We were thinking in terms of closure of the eating facilities. I called Dr. Koplan concerning our information about food handlers and requested that he check to see if this were true and to get sick foodhandlers replaced. Also, I determined together with others of the Health Division and with Roger Lowell, the Portland Director of the Food and Drug Administration, whom to notify if we decided it was necessary to recommend closure of the food service facilities.

On July 9th, I called Dr. Koplan in the morning to indicate our concern that closure of the eating facilities was needed. I expressed our concern that there may be contamination of food by a sick food handler and further spread of illness in this manner. Dr. Koplan expressed the need for 12 hours to do a survey of Lodge guests to see if he could demonstrate that transmission had occurred during the wekend and first days of the week. He asked for additional help and I arranged to send Don Cowne from Disease Monitoring and Control, and Protective Health Services sent Bill Titus and Ed Barnes. Also at this time, I raised the question of EPA participation with LaVerne Miller who subsequently reported that he had talked to Mullens concerning this.

On July 10th, early, I received a telephone call from Dr. Koplan indicating that he and Dr. Mark Rosenberg were now of the opinion that the Lodge and eating facilities in the park be closed. This decision had been reached since there was evidence from a survey of lodge guests that individuals who had been there on July 6 and 7 had become ill. Doctors Koplan and Rosenberg felt that disease transmission was still occurring in the face of adequate chlorine content of the water supply to the Rim. Dr. Koplan indicated that the recommendation had been cleared with CDC and that closure of the Lodge and eating facilities would be imminent. About an hour later Dr. Koplan called back to state that his previous call had been premature, that decision had been made at CDC that there was insufficient evidence, epidemiologically, to warrant closing of the facilities. Dr. Koplan indicated that he had received directions from CDC to obtain additional information relative to individuals who visited the Park and had not stayed at the facilities. His plan was to initiate a questionnaire which was to be passed out at the gates and each individual who entered the Park be given a questionnaire and a number to call in the event that illness developed after he left the Park. It was hoped by this means to have information within 48 hours that might give CDC more information upon which to base a closure recommendation.

I relayed this information to Dr. Ed Press and others in the Health Division and about the same time received a telephone call from Dr. Gangarosa from CDC who reported to me that a decision had been reached not to recommend closure of the Lodge and eating facilities after consultations with others at CDC and with the Department of Interior as I recall it. Dr. Gangarosa stated that there

just was not enough evidence at that point to incriminate with certainty any transmission factor, particularly water or food, and that it is quite possible that if the facilities in the Park were ordered to be closed, CDC would be making a recommendation which could not be supported in the event that they were challenged. Also, Dr. Gangarosa felt that there was a possibility CDC might find it had made a recommendation for closure when the outbreak actually had run its course. I expressed my concern with this decision to Dr. Gangarosa and urged that he reconsider. He indicated that he was concerned also, but nevertheless, CDC had decided not to recommend closure and they would stand on that pending further evidence. I indicated that evidence we had from people reporting to the Health Division was certainly suggestive that transmission was continuing to occur, and that while we did not know for certain that it was water or food, I felt that we should take action at any rate and was strongly in favor of closing the facilities. In early afternoon of July 10th, Dr. Press and I made call to Dr. David Sencer, Director of the Center for Disease Control, to again repeat our concern with CDC's decision expressed by Dr. Gangarosa. We were informed that CDC would continue to examine its position the evening of the 10th and that we would be given a call the morning of the 11th.

I was informed by telephone call from Mr. Tom Blair approximately 11 pm the evening of July 10th that sewage had been discovered overflowing from a manhole and subsequently over the ground down to the area of the infiltration beds of Munson's Springs. He indicated that dye studies had been done which demonstrated that the sewage subsequently gained access into the collection tank of the spring. Following conversation with Mr. Blair, I called Dr. Koplan for his report of this finding. Dr. Koplan indicated that information sheets were to be passed out at every lodging place in the Lodge and in the cabins warning people not to use the water for other than toilet flushing. It was decided not to turn the water off entirely because there were people there who had diarrhea and it was felt that not being able to flush toilets might create a health problem.

The following morning, July 11th, I called Koplan again to verify the steps which were to be taken. Dr. Koplan indicated that the Park was to be entirely closed to tourists, that the tourists there would be urged to leave, and that most of the concessions would also be released. Dr. Koplan requested assistance in the form of manpower and material to provide gamma globulin shots for all individuals who were employed by the concession operator and the Park staff who were about to leave. He requested that we get the personnel and material to the Park as soon as possible. The remaining hours of the 11th were spent arranging for material which Dr. Koplan had requested and disseminating information concerning the outbreak and its cause to local health departments and others. Following this point, personnel of the Office of Disease Monitoring and Control including myself functioned primarily in a support role and information providing capacity.

In conclusion, I would like to recommend that the Committee examine the matter of divided responsibilities for environmental health factors within the Park. One federal agency has responsibility for water, another for food service protection. The representatives of these agencies probably are not able to provide the supervision needed for many reasons. Crater Lake National Park, however, is not far from good local health departments and the regional staff of the Oregon Health Division. Both of these resources are capable of rendering constant, careful supervision of food service and water supply.

In addition, the matter of disease surveillance and reporting in National Parks should be examined. The National Parks present unique opportunities for disease transmission because of the heavy flow of visitors, crowding, high demands placed upon food service and water and sewage systems. In the case of Crater Lake a resident population of about 250 had been experiencing illness for several weeks before it finally came to the Health Department's attention. Apparently no one in authority was aware of the total number of cases occurring at one time. This fact points to the need for a disease surveillance mechanism which alerts someone in authority that disease is occurring among the resident population. The Park authority should be made aware of the channels for disease reporting.

Finally, I recommend that the Committee consider the matter of health service provided to seasonal employees of concession operations at Crater Lake. I see the present practice of health care involving diagnosis and treatment which is under the direction of a non-medically trained individual who also is the employer of the patients as being hazardous and basically objectionable.

CHRONOLOGY OF DISEASE MONITORING & CONTROL ACTIONS RELATED TO CRATER LAKE OUTBREAK

July 1, PM—Received oral report from Dr. Holmes relating receipt of 4 stool specimens in laboratory for YCC personnel at Crater Lake and report that 30+ of the group had been ill. This later information received by Dr. Holmes who called the Klamath County health department.

July 1, PM—Dr. Holmes conferred with LaVerne Miller and contacted EPA (Bill Mullins) regarding evaluation of park water system.

July 2, AM—Informed by LaVerne Miller that sanitary engineer going to Park to evaluate water system.

July 2, AM—Urged laboratory director to expedite examination of four specimens.

July 3, AM—Laboratory results determined to be negative.

July 3, PM—Checked with Leo Farr concerning engineers report. Informed water system felt not to account for illnesses. Decision made to proceed to Park on July 4th with assistant and sanitarian help to evaluate other possibilities for transmission.

July 3, PM—Called CDC (Dr. Lyle Conrad) to alert that outbreak at National Park being investigated and to state that help might be needed.

July 3, PM—Arranged with Mike O'Neal for he and Ed Barnes to meet us at Crater Lake on July 4th. Also, called Richard Sims, Park Superintendent to inform him of my visit.

July 4, PM—Arrived Crater Lake 1 PM with Katherine Jones and there met Mike O'Neal and Ed Barnes. All met with Richard Sims. Obtained history as outlined in memo. I obtained stool specimens from 5 persons while Mike and Ed checked eating facilities and Katherine interviewed patients.

July 4, PM—Met with Mr. Payton (concessionaire) regarding list of lodge guests.

July 4, PM—Returned to Portland. Decision made that additional help needed to evaluate outbreak since it was unclear as to continued transmission and whether water was involved. Epidemiological evidence seemed to indicate water involved, but engineering report and Cl_2 residuals not consistent.

July 5, AM—Stool specimens brought to laboratory. Call made Dr. Gangarosa (CDC) who was not in then to Dr. L. Conrad to request EIS help in evaluating outbreak of gastroenteritis at Crater Lake.

July 6—Dr. Gangarosa called to state that Dr. Koplan would come to Crater Lake. Dr. Koplan called in PM to give me his arrival time as approximately 12 Noon July 7th.

July 7, AM—Called Richard Sims to report Dr. Koplan's arrival at Crater Lake.

July 7, PM—Call from Dr. Gangarosa indicating 2nd EIS officer to be sent to Crater Lake (Mark Rosenberg).

July 7, PM—Dr. Koplan called to relate his initial activities. Stated his indecision as to transmission but felt water was most likely suspect on epidemiological basis.

July 8, AM—Kay Yarabinec's report of illness in tour group established incubation period 36–48 hours. Details of this report called to Dr. Koplan.

July 8—Additional report of illness among Crater Lake contacts received. One of these brought to me by Sharrel Davison raised question of ill food handlers continuing to work in park concessions. Davison and I felt if this was true, closure ought to be recommended.

July 8—Replayed information regarding food handlers to Dr. Koplan who indicated he would check and get sick ones replaced.

July 8—Investigated with Tom Blair, Sharrel Davison, Roger Lowell (FDA) the steps to take, who to contact if closure was decided.

July 9—Called Dr. Koplan to indicate our concern that closure of eating facilities was needed. He requested additional 12 hours to do survey of lodge guests to see if we had had evidence that transmission was still occurring. He asked for additional help and I sent Don Cowne and Sanitation sent Barnes and Titus. Also I raised the question of EPA participation on the spot with LaVerne Miller; he called Mullins regarding this.

July 10. AM—Call received from Dr. Koplan expressing concern that Park be closed in view of evidence at hand of continued transmission and uncertainty as to explanation of this. Later (1 hour) this decision countermanded by CDC

(Dr. Gangarosa) claiming insufficient evidence to make decision.
July 10, AM—Call from Dr. Gangarosa to me relating CDC decision and reasons not to recommend closure.
July 10, PM—Call with Dr. Press to Dr. Sencer, CDC, expressing concern that Park not closed.
July 10, PM—Call from Tom Blair (11 pm) relating sewage contamination discovery.
July 10, PM—Call to Dr. Koplan to verify and determine what actions to be taken.
July 11, AM—Call to Dr. Koplan to verify extent of Park closure. Informed by him of actions and request for help to give gamma globulin and obtain bloods.
July 11—Arrangements made with Mary Murphy, RN and Lane County Health Department personnel to go to Crater Lake to give gamma globulin and draw bloods.
July 11—Recommendations received from CDC regarding gamma globulin usage for Park contacts.
July 11, PM—All local health departments in Oregon call to alert them to need for gamma globulin for park contacts. Orders of gamma globulin shipped as requested.
July 12—GG orders to Douglas and Klamath Counties shipped this weekend.

KLAMATH COUNTY HEALTH DEPARTMENT,
Klamath Falls, Oreg., July 22, 1975.

SANITARIAN'S REPORT—CRATER LAKE NATIONAL PARK

6–30–75: Jack Stump from youth activity group notified this Health Department of personnel at park coming down with sickness. He commented about 90 out of 130 persons.

7–1–75: Jack Stump brought in 2 H_2O samples and 4 stool samples and we sent them in to be tested for ova and parasites, and bacteria infestation. H_2O came back positive for Coliform—no pathogens.

7–1–75: Talked to Dr. Holmes, D.V.M., Epid. OSHD on phone who has initiated a sanitary survey.

7–9–75: Gena and Dave were asked to assist U.S Public Health Service at Crater Lake. Dr. Jeff Copeland from Berkley, California, Dr. Mack Rosenberg from Atlanta, Georgia.

7–9–75 thru 7–12–75: Gena and Dave assisted in survey of water supply system and sewer system, H_2O sampling, Cl_2 testing and milla pore sampling and testing for Coliform bacteria.

We also surveyed and questioned employes and tourist stayovers.

7–11–75: Park closed by U.S. Public Health Service.

7–16–75: Mr. G. Bremmer from National Park Headquarters, Klamath Falls, called and questioned Dave about reports and times of events leading to closing of Park.

7–16–75: Dr. Mark Rosenberg from Atlanta, Georgia, called and questioned about reports and times of events leading to closing of Park

7–11–75 thru present: Klamath County Health Department has administered prophylactic gamma globulin to contacts of water at Park.

7–21–75: Two nurses helped to draw blood for testing—9:00 a.m.

7–22–75: Two nurses helped to draw more blood for testing—7:00 p.m.

GENA M. WRIGHT, R.S.,
Supervising Sanitarian,
DAVID H. BUSSEN,
Sanitarian.

Senator HATFIELD. Gentlemen, do you have any additional information that would be helpful? I am informed by staff you did have some direct contact in inspecting some foodhandling processes and some water programs, so would you care to give us a brief summary of those two encounters in the park on those dates?

Mr. TITUS. I was sent down on the morning of the 9th, I arrived in the park in late afternoon or early evening, and at the time I arrived there wasn't an awful lot that was known for sure. There was con-

fusion as to what was causing the problem, whether the problem still existed, what the size of it was. I was sent down with the specific purpose of investigating the water system, not I think that anyone suspected specifically that that was the cause of the problem, but I think it was merely a precautionary measure.

Senator HATFIELD. What did you find?

Mr. TITUS. Well, before I left Portland I talked to Mr. Von Ohlen, who had been down to the park to try to get some idea of what was going on, and he laid out to me in quite considerable detail all he had found when he was down here.

I began talking to Dr. Koplan and Dr. Rosenberg, and also Frank Whitaker of the maintenance staff of the park, to see if there had been anything left out in Mr. Von Ohlen's investigation, and I began to pick up noises maybe things weren't all the way Mr. Von Ohlen thought they were, specifically with the chlorination. The next morning I spoke with Mr. Adams, and in fact worked with Mr. Adams.

Senator HATFIELD. You did see those chlorination reports?

Mr. TITUS. Yes; I did. And this was not something new, Mr. Von Ohlen explained to me the upper system was being chlorinated and the lower system was not, but he had no real explanation for it. When I arrived in the Park some investigations were already going on to find out why the chlorination situation was the way it was. I was also shown the YCC bacteriology sample.

Senator HATFIELD. That is the Klamath Basin report?

Mr. TITUS. That is correct. And to me, I work with bacteriology samples day in and day out, it is part of my job interpreting them, and while I appreciate some of the statements that have been made here before, I agree with them, however, interpreting them is once again——

Senator HATFIELD. How would you have interpreted this report?

Mr. TITUS. It made perfect sense to me. I had already been apprised what the source of the water was for Crater Lake, Munson Springs, and what its construction was, and basically what its location was, and I immediately formed the opinion, I think with good reason, that it was not water pure as the driven snow, it was obviously surface water. And since that sample and the samples that had been collected for the previous month and a half or so represented melted snow water which had run through a considerable amount of loose pumice rock, I was not surprised in the least to find there were coliform bacteria in it.

Senator HATFIELD. At this level?

Mr. TITUS. At that level, certainly, if not higher. Also being appraised there was no chlorine residual in the lower system, that made perfect sense to me a result like that would be found, and I didn't find it alarming, I didn't find it particularly dangerous.

Senator HATFIELD. What would you have done with this kind of a report in terms of recommendations to a line officer or a person who would be in line to make a decision?

Mr. TITUS. That report in conjunction with the chlorine situation would have prompted me to go up and rattle the chlorinator and find out why it wasn't chlorinating properly. I think that was the proper line of action with that information, and that is just what we did.

Senator HATFIELD. And you would report it to your superiors or those who would be in a policy making position?

Mr. TITUS. Yes.

Senator HATFIELD. You would have felt the evidence here would have been sufficient to make direct contact with a policy person in your organization?

Mr. TITUS. I don't think that would have been necessary, I would have taken the action on my own at the time. And that action was being taken already when I got there. On the other hand, I would like to emphasize to you I do not believe, I did not believe at that time, and it would be very difficult to convince me that this kind of a thing was the cause of the kind of problem that was there at the time. I think I would agree with Mr. Von Ohlen, what I saw of the water system when I got there, and I think that would be true up until the night of the 10th, what I saw was there were maintenance problems, there were operational problems, there were construction problems, but I don't think those problems were of the severity that would have been responsible for the kind of illness that was occurring at the time.

Senator HATFIELD. Do you have any doubt now in your mind in retrospect that this was the vehicle?

Mr. TITUS. No; I have not. I am completely convinced it was the vehicle. But I am convinced the kinds of problems that existed in the system were not the cause of epidemic. The cause of the epidemic was the construction of the sewer system, not the water system.

Senator HATFIELD. The water itself became the common denominator of these people's illnesses.

Mr. TITUS. That is true.

Senator HATFIELD. But that would not have alerted you to that, based on the evidence of this report and the chlorination report?

Mr. TITUS. That is right. The next morning we were able to get into Munson Springs and take some samples there.

Senator HATFIELD. What did you find?

Mr. TITUS. Unfortunately, the results of those are not immediately available, not available within 18 hours. And we ran those.

Senator HATFIELD. That would have been again on the 9th?

Mr. TITUS. Well, we collected them on the morning of the 10th so unfortunately by the time we would have had——

Senator HATFIELD. So they did not play a part in this?

Mr. TITUS. That is correct. Now, either the evening before I got there or the morning I left Portland, Jeff Adams had gotten into that spring box and collected a sterile sample from one of the lines in the spring box, and they knew I was coming and they saved that sample for me. When I got there then on the evening of the 9th I ran the sample, and the results were ready on the evening of the 10th. The results were total coliform in a range 40, 42, 45, somewhere in that neighborhood.

Senator HATFIELD. Interpolate those figures.

Mr. TITUS. Forty to forty-five coliform bacteria per 100 milliliters of water.

Senator HATFIELD. What do those figures mean?

Mr. TITUS. That is fairly good surface water.

Senator HATFIELD. In other words, there was nothing extraordinary about that particular test?

Mr. TITUS. Not at all.

Senator HATFIELD. What did the ones that took 18 hours to show what did they come up with?

Mr. TITUS. These were samples taken on the morning of the 10th, and they were heavily run off. The complicating figure here was the construction of that spring box, there were seven or eight different springs running into that one box.

Senator HATFIELD. These are like fingers?

Mr. TITUS. Right. One of the fingers was coming northerly that was relatively far away from the contamination.

Senator HATFIELD. That is the one they took the test from?

Mr. TITUS. That is the one they took the sample from on the morning of the 9th. All this information was coming together, and I think we would have been ready early on the morning of the 11th, if not late on the night of the 10th, to close the park because of the contaminated water sample.

Senator HATFIELD. Which would have been a confirmation or a rejection of the decision Dr. Googins would have taken to close a State facility under similar circumstances on the 9th?

Mr. TITUS. That is correct.

Senator HATFIELD. Thank you. Mr. Barnes.

Mr. BARNES. I worked along with Mr. Titus in the water program, and along with doing that I was the only sanitarian, to my knowledge, that looked at the food service facilities during the period that the research was going on as to what the problem was. Do you have any——

Senator HATFIELD. Well, would you indicate to me what you found in that particular encounter you had with the food service? You observed people ill; were people who were ill working against their will?

Mr. BARNES. The first inspection I made was on the 4th of July, and I found several things, pieces of equipment that were operating, such as one refrigeration unit was operating at 66 degrees.

Senator HATFIELD. Do you have this in a report you made to Dr. Googins?

Mr. BARNES. Well, there was a report I did make to different personnel.

Senator HATFIELD. Could we have a copy of the full report?

Mr. BARNES. Yes.

[The report referred to by Mr. Barnes follows:]

DEPARTMENT OF HUMAN RESOURCES, HEALTH DIVISION,
Portland, Oreg., August 5, 1975.

The following are the results of inspections of the food service facilities at Crater Lake National Park, that were conducted on July 4, 1975, and July 10, 1975.

These inspections were not as thorough as the normal food inspection with little being done with the plumbing. The structural problems noted were not recorded because of trying to find the point of contamination causing the gastroenteritis outbreak.

On July 4, 1975, the Crater Lake Lodge Dining Room was inspected first. The kitchen was not in operation at the time of the inspection, thus making it impossible to check the functions of the dishwasher. All of the refrigerating units were holding temperatures at 45 degrees fahrenheit. There was an excessive fly problem noted. I would estimate that over one hundred flies were present in the kitchen. The flies were noted crawling on the salmon and poultry products that were lying on a counter top. The poultry products were cooling after coming from the oven, the salmon was being thawed without the aid of refrigeration. The laminated wood table was noted to have cracks with food encrusted in the cracks. The can openers were not being cleaned properly.

In the Cafeteria, a refrigerator was found to be operating at 66 degrees fahrenheit. The dishwasher was found to be 160 degrees fahrenheit during the final rinse cycle instead of the accepted 170 degrees fahrenheit.

The Wineglass was a quick look because of the limited food service. All refrigerating units were checked and found to be functioning at acceptable levels.

The Fountain was a mess! They were extremely busy and it appeared that the mess was from that days operation. All of the refrigeration was functioning at acceptable levels.

In the Cafeteria, Wineglass, and the Fountain, personnel were observed who appeared ill. When I asked them how they felt, they stated that they were ill and still had diarrhea or occasional vomiting.

Before the inspection of these facilities, I requested permission to make the inspections. An effort was made to find Mr. Payton, owner of the business. His staff was unable to reach him, however permission was granted to make the inspections by a member of his staff who was in charge of operations, known to me as "Ryan".

Before the inspection of the Lodge Dining Room was concluded, I was ordered by Ryan to stop the inspection and go to the dormitory building and talk with Mr. Payton. Mr. Mike O'Neil accompanied me to Mr. Payton's office. Mr. Payton wanted to know by what authority the State of Oregon had going through his facility, and in the same breath, told us that we had no authority. I explained that this was part of a complete epidemic investigation, and that we were working for Dr. John Googins, Oregon State Health Division. I informed him, that if he wanted to talk with Dr. Googins, he could call the Park Headquarters and speak with him. He refused and accused us of, "being on a witch hunt!". Mr. Payton finally called Mr. Sims, Park Superintendent, who confirmed who we were. Mr. Payton then agreed to let us go ahead with our inspection.

Approximately one hour elapsed from the time that I stopped inspecting, until I was able to proceed again with the inspection. Both Mr. O'Neil and I commented to each other after leaving Mr. Payton's office, that we could smell alcohol on Mr. Payton.

When I arrived at the cafeteria, it appeared that a great deal of cleaning had gone on while we had been delayed by Mr. Payton, thus hindering the investigation.

At the conclusion of the investigation, I told Dr. Googins what had transpired and that I did not feel that any one thing that I had witnessed was the cause of the illness.

On July 10, 1975, all four food facilities were inspected at the request and accompaniment of Dr. Jeffery Kopland and Dr. Mark Rosenberg.

The Cafeteria was first inspected. Two refrigeration units were found to be above 45 degrees fahrenheit. One operating at 50 degrees fahrenheit and the other at 49 degrees fahrenheit. This was the same unit that was operating at 66 degrees fahrenheit on July 4th. The final rinse on the dishwashing machine was only 167 degrees fahrenheit.

The Wineglass was inspected next. All refrigeration was found to be operating at acceptable levels. The glass washer was a Hobart Chloritizer. In two attempts of testing for the chlorine strength used for sanitizing, no chlorine could be detected. The personnel at the Wineglass did not know how to operate the glass washer properly.

Inspection of the Fountain revealed that ice was being scooped into the glass by use of the hand. Mayonnaise in a pan of melted ice was not being kept at 45 degrees fahrenheit.

The Crater Lake Lodge Dining Room was found to be improved over the July 4th inspection. The fly problem was not as severe as on the 4th, however, flies were still present in the kitchen. Salmon was being thawed out of refrigeration on the same table that the meat had been noted on July 4th. An employee was noticed handling butter cubes with his hand while placing the butter in the dish of ice. The ice was also handled by hand.

After concluding this inspection, I went to the concessionaire's head office to meet with the doctors who had gone to talk with Mr. Payton. While waiting outside the building, I was approached by a young man who informed me through the course of the conversation, that people had been and were being forced to work against their will while they were ill. They were told that they would be fired if they did not work.

I was also told by another individual that her children worked in the kitchen of the cafeteria, and that they had witnessed the cook vomiting into a waist paper basket that was kept next to the food preparation area where he was working.

The results of these inspections were reported verbally to Oregon State Health Division personnel on July 14, 1975, in Portland, Oregon, and to the National Park officials in the office of Mr. Richard Sims, Crater Lake Park Superintendent on July 16, 1975.

Park officials were reminded that part of the statements that I made were of hear-say nature, and that they should be investigated.

G. EDWARD BARNES, R.S., *Regional Sanitarian.*

Senator HATFIELD. Then would you refer at this time to only those matters which you observed involving possibly sick people?

Mr. BARNES. OK.

Senator HATFIELD. Or any evidence you had people were working against their will.

Mr. BARNES. OK. I did talk to people during the course of my inspection that appeared to be ill. I asked them if they had had diarrhea or had been vomiting at a recent time. People did tell me they did have diarrhea at the time they were working or had recently been vomiting. I had one individual——

Senator HATFIELD. This was on the 4th?

Mr. BARNES. No; this was on the—it would have been the 10th that I asked these people.

Senator HATFIELD. Did you make an inspection?

Mr. BARNES. Yes; I made an inspection on the 4th of July. You asked me only to relate things——

Senator HATFIELD. But did you observe any sick people on the 4th?

Mr. BARNES. As I recall there were some people I felt that were possibly sick.

Senator HATFIELD. But you didn't interrogate them?

Mr. BARNES. But I didn't interrogate them.

Senator HATFIELD. So it was on the 10th you actually interrogated people?

Mr. BARNES. Yes.

Senator HATFIELD. All right.

Mr. BARNES. Then also on the 10th I walked over to the head concessionaire's building where people were—the dormitory was up above, then his offices were down below. And while sitting outside waiting for Dr. Rosenberg and Dr. Koplan, they had the car, to take down the hill, a young man approached me. Well, I asked him how fishing was, he had come up from the lake and we got talking, and in the course of talking he asked me what kind of protection I had. And I asked him, "What do you mean by protection?" And through his course of conversation he conveyed to me that personnel was being forced to work against their will with the threat of being fired when they were sick.

Senator HATFIELD. Did he give you his name?

Mr. BARNES. He did not give me his name. However, his picture did appear in the Eugene Register Guard, and he made the same statement as I recall to the newspaper there.

Senator HATFIELD. Did you report this to any of your colleagues?

Mr. BARNES. Yes; I did. I reported—well, let me check the dates. I reported to the State health division on July 14 in a verbal fashion,

and after reporting to them I came back to Crater Lake. I had taken some samples into Portland and attended a staff meeting, then I reported verbally on July 16, 1975, to Richard Sims and some other higher echelon people in the National Park Service.

Senator HATFIELD. Did the concessionaire's people cooperate with you on July 4 and July 10?

Mr. BARNES. No, sir, he did not.

Senator HATFIELD. In what way did he fail to cooperate?

Mr. BARNES. Well, we went to the lodge and tried to see the head concessionaire, Mr. Peyton, whom I had not met at that time, and the lady who I believe her name is Mrs. Borisch, made an effort to find him with the aid of a telephone. She could not, and she located the man second in charge as I understood it, and he was known to me as Ryan, I don't know if that is his first name or last name. But in talking to him I explained to him we were there just for the day with Dr. Googins trying to get a complete epidemiological picture of any place people could be getting sick, whether it was from food or water. Then finally he consented to let me. And I was accompanied by the regional engineer from my office, Mr. Michael O'Neal. We began to inspect the kitchen facilities of the Crater Lake Lodge. We had just about concluded this inspection and Ryan came to us and ordered us to stop, we could not go further with the inspection, we had to go down and talk to Mr. Peyton. There was another piece of plumbing I wanted to check on, but we were not permitted.

Senator HATFIELD. What reason was given for not allowing you to do this? Was it a question of jurisdiction?

Mr. BARNES. No; Mr. Peyton wanted to talk to us, and he had ordered Ryan to stop us from making an inspection. So we went down to meet with Mr. Peyton. I have a paragraph in here I could probably read that would be more accurate than my trying to recollect. This is on page 3, the fourth paragraph:

> Before an inspection of the lodge dining room was concluded I was ordered by Mr. Ryan to go and talk to Mr. Peyton. Mr. Peyton wanted to know by what authority the State of Oregon had going through his facilities, and in the same breath told us that we had no authority. I explained that we were working for Dr. John Googins, Oregon State Health Division, and I informed him if he wanted to talk to Dr. Googins he could talk to him at the park headquarters.

We also explained we were trying to find out if there was a problem, which we more or less concluded by this time ourselves, but was strictly trying to find what could possibly be causing this problem. He refused to talk to Dr. Googins and he accused us of being on a witch hunt. Mr. Peyton finally called Mr. Sims, park superintendent, who confirmed who we were. Mr. Peyton then agreed to let us go on with the inspection. Approximately 1 hour elapsed from the time he stopped the inspection until the time that I was able to begin the inspection. Upon leaving the building both Mr. O'Neal and I commented to each other after leaving Mr. Peyton's office that we could smell alcohol on Mr. Peyton, and the reason for this was we were quite alarmed with his actions and attitudes at this time. We were simply trying to work in the best interests of all the people concerned, which was also pointed out to him.

So then at that point we went on to investigate the remaining three food facilities. When we got there—— Well, I went back and checked the piece of equipment in the lodge I wanted to check the

plumbing on. Then from there we went to the cafeteria, and we felt in the course of the inspection it became quite apparent to me, through many restaurant inspections, that there had been some cleaning going on in the facility while we had been talking to Mr. Peyton. An example of this would be there are three, possibly four large walkin units. I think one is a deepfreeze and I can't recall the exact number, but these had been swamped out, the water was still on the floor of the refrigeration units, and there was a young man sitting on a box with the perspiration running off of him, and there was a mop right next to him. So anyway we concluded the inspection on that date, then were going to go down the hill to headquarters, but Dr. Googins was just coming up and we met him in the parking lot, and I told him I felt there was nothing in the restaurant that would have been the source of contamination causing the illness.

Then on the 10th at the request of Dr. Rosenberg and Dr. Googins I reinspected the same facilities. We did get into the cafeteria and inspect that. And from there we went to the Wine Glass, and we were stopped by the manager. He said he had orders no one was to do any inspection without the express consent of Mr. Peyton. We waited around there for a while and the manager wasn't able to contact Mr. Peyton by phone, so finally Dr. Koplan said, "Well, we are going in here and make this inspection, it rests on my shoulders." So as soon as we walked in the kitchen the phone rang, it was Mr. Peyton, and he gave us approval to make the inspection. While I was inspecting the lodge they did close the facility for public eating that night.

Senator HATFIELD. Thank you very much, Mr. Barnes, Mr. Titus and Dr. Googins.

We will take a 15-minute recess.

[Thereupon a short recess was taken.]

Senator HATFELD. The hearing will come to order. At this time I would like to call Mr. Peyton, president of the Crater Lake Lodge, Inc., and Mrs. Peyton.

Mr. Peyton, I believe you are accompanied by counsel. You are welcome to bring your counsel. And I understand you also have with you certain key personnel of your organization, and you are welcome to bring all such persons to the table at this time.

Mr. Peyton, would you please at this time for the benefit of the reporter identify the persons you have with you?

Mr. PEYTON. This is Ed Edwards, he is the manager of the Wine Glass restaurant and cocktail lounge; this is Kathryn Peyton, my wife; this is Julie Sexton, she is our house mother; and Ryan Gilmore, who is the food and beverage manager of the four eating areas; Joan Borisch, who is my office manager.

Senator HATFIELD. Do you have counsel you wish to have with you?

Mr. PEYTON. They're here but I don't think I need them.

Senator HATFIELD It is up to you whether you wish to have counsel or not. You are welcome to bring him with you if you wish, otherwise you may proceed.

I believe you have a statement, Mr. Peyton, and perhaps it would be best if you would read that statement at this time. Or if you desire we could have you summarize it and we would put it in the record in complete form.

Mr. PEYTON. It isn't very long and I'll read it, and then hope to answer any questions.

Senator HATFIELD. Please do.

STATEMENT OF RALPH O. PEYTON, PRESIDENT, CRATER LAKE LODGE, INC.

Mr. PEYTON. I am Ralph O. Peyton, president of Crater Lake Lodge, Inc. Crater Lake Lodge, Inc. is the concessioner operating in Crater Lake National Park. I have been associated with the concession operations at Crater Lake National Park since 1959.

The concessioner is under contract with the National Park Service to provide food, lodging, souvenirs, film, gasoline, oil, related mechanical services, bus transportation and tour boat excursions on the lake to visitors at the park.

The main season for the concession operations is during the summer months from mid-June to Labor Day. During these summer months my wife and I reside at the employee dormitory in the park. The concession operations remain open however, on a very limited basis during the 9 months of the winter season from September through June.

In exchange for this concession, Crater Lake Lodge, Inc., pays a franchise fee based on its gross sales in the park. Crater Lake Lodge, Inc., built with private capital all of the buildings and improvements that it operates. Since Crater Lake Lodge, Inc., does not own the land, technical title to these buildings and improvements passes to the U.S. Government; however, Crater Lake Lodge, Inc., has a possessory interest in such buildings and improvements as provided by Public Law 89-249 and the concession contract. Crater Lake Lodge, Inc., pays all costs of repair and maintenance required by these buildings and improvements. In addition, Crater Lake Lodge, Inc., pays taxes on these buildings and improvements as if they were located on private property.

The concessioner, like any other consumer, purchases all utilities it uses in its operations. Electricity is purchased from Pacific Power and Light Co. Water and sewer services are purchased from the National Park Service. Last year the concessioner paid the National Park Service $1,133.30 for water and sewer services. The National Park Service installed and maintains the water and sewer systems, and has responsibility for testing the quality of the water. The concessioner has no responsibility for maintaining these systems nor for testing the water.

Every year a large number of our employees and the employees of the National Park Service at Crater Lake contract an illness to which we have given the name "Crater Lake Crud." The symptoms of Crater Lake crud are similar to what a layman relates to the flu.

This year, an illness that we thought was the Crater Lake crud appeared in our ranks. A reconstruction of our payroll records shows that the illness struck our employees as follows: June 15, none; June 16, none; June 17, none; June 18, 1; June 19, none; June 20, 1; June 21, none; June 22, none; June 23, 1; June 24, 1; June 25, 2; June 26, 2; June 27, 2; June 28, 3; June 29, 3; June 30, 13; July 1, 48;

July 2, 23; July 3, 13; July 4, 6; July 5, 6; July 6, 10; July 7, 12; July 8, 18; July 9, 13; and July 10, 12.

Senator HATFIELD. Excuse me, Mr. Peyton, could I interrupt at this point?

Mr. PEYTON. Yes.

Senator HATFIELD. These figures you have just quoted, you identify these as, "A reconstruction of our payroll records. It shows that illness struck our employees." Now, do these figures actually represent the employees who were absent from their job or their work station?

Mr. PEYTON. Yes. The payroll records—of course we had no way of doing it any other way except to go back to the time slips, and if anybody lost any time, whether 1, 2, 4 hours, or all day, we assumed they were sick, and that is where we got those numbers.

Senator HATFIELD. These, in effect, are those who were absent from their duty positions?

Mr. PEYTON. Right.

Senator HATFIELD. What about people who were on duty and may have been sick, these records would not show that particular fact?

Mr. PEYTON. No; they wouldn't.

Senator HATFIELD. Now, this raises of course a point that has been discussed in previous testimony, that there were those who indicated that they were ill, but were working taking Kaopectate with a bucket next to the stove which they vomited in, various and sundry other expressions made to people who have testified here there was a threat implied or otherwise that if they did not appear and take on their duty position they would be fired and sent home. Since we are on this subject now why don't you take this occasion, even though you may address yourself later in your formal testimony, to keep this all in one category would you respond to those statements at this time?

Mr. PEYTON. No employee is forced to work when they're sick, never have been in the 16 years I have been there. They're supposed to report illnesses, then we do something about it. We have a house mother, and it is her full-time job, she doesn't work at anything else, to keep it quiet at night so that they show respect for the other employees that have to get up early, try to keep the rooms as clean as possible, if they're ill, try to find out what is the matter, take their temperature. If they need food, she gets it for them. If it is a minor situation, we have quite a supply of nonprescription drugs in the office and we supply those to all employees. If simple medication doesn't work, we send them to the doctor in Klamath Falls. If they don't have transportation, we provide it.

Senator HATFIELD. Have you had instances of that type of illness which has required a physician?

Mr. PEYTON. Oh, we do every summer.

Senator HATFIELD. Every summer?

Mr. PEYTON. We get other things too besides flu, you know. Sometimes you are worried about a person having appendicitis or something.

Senator HATFIELD. Do you deny each and every one of these allegations that relate to the subject of employees working while ill?

Mr. PEYTON. Well, I'm not around to see and talk to all employees at all times. I do get around through all my supervisors. And it is not the policy to force anybody to work, no matter how shorthanded we are.

Now, I assume there is a certain number of employees when they realized—during one 3-day period there we had 20 percent of the crew was sick, and——

Senator HATFIELD. That would have been June 30, July 1, and July 2 you're speaking of?

Mr. PEYTON. Yes; those dates right in there. We were working the employees that were not sick on long overtime, talking them out of taking their days off so they could fill for somebody else, but they were paid for it, of course, at time-and-a-half. I think out of a sense of loyalty to the company and to their fellow employees, a lot of them worked when they shouldn't have been working.

And also the sickness affected the different employees in a different manner. Some of them would get real sick for 1 day, and the next day they would think they were all right when we know now that they weren't getting this bug out of their system, because they were reinfected every day. But some of them—I know in my particular case I had diarrhea, which I would go to the bathroom then I felt fine, go on about my business and work. And I know that was the case with an awful lot of the employees. We know now they were technically sick but might never have realized it at the time.

Senator HATFIELD. Did you at any time instruct any of your food handlers to continue working knowing they were sick?

Mr. PEYTON. Absolutely not.

Senator HATFIELD. What about the visit of Dr. Koplan and Dr. Rosenberg, on the evening of the 9th, where they held the meeting and asked the ones to raise their hands who had been and were sick, and instructions they gave, to your staff and to you, to not permit people in that condition who had gastrointestinal symptoms to not continue working—gastrointestinal symptoms I understand includes diarrhea—then returned to that facility the next day and found 5 out of 6 still working with those symptoms. How do you respond to those allegations?

Mr. PEYTON. Well, unless they tell us they're sick we have no way of knowing they're sick. Most of those people looked as healthy as could be when in fact they still had a growl in their stomach. I know I had one that stayed in my stomach for 10 days, but I had no diarrhea and no vomiting, but obviously the symptoms were still in my stomach.

And also we had instructions from Mr. Fritz that whenever an employee was sick that they could not return to work for 24 hours, then a day or two later that was changed to not come back for 4 days. Before that day was over he changed it to 7 days.

Senator HATFIELD. Was this in writing or oral instructions?

Mr. PEYTON. This was oral.

Senator HATFIELD. Well, now, according to these statistics you had one, and none, and two, then it jumped to 13, 48, 23, did you not at that time become concerned about this rather substantial increase?

Mr. PEYTON. I was concerned about it before that.

Senator HATFIELD. In other words this is not a typical summer report that you are giving us here?

Mr. PEYTON. No, sir.

Senator HATFIELD. At what point did you become concerned that it was a little out of the ordinary and obviously no longer to be considered as Crater Lake crud?

Mr. PEYTON. On June 26.

Senator HATFIELD. And what did you do at that time? How did you reach that conclusion?

Mr. PEYTON. I called two doctors, one in Klamath Falls and one in Portland, both of them are personal doctors and long time friends. And I explained to them what was going on up here, and that we had it every summer, but there was something about it that was bothering me, because in previous years the employees that would get it would get over it in 1 day and these were not, they were getting it and it was lasting most of the time 2 days and in a few instances 3. So I asked them is it the flu or what am I doing wrong? And they didn't seem to think there was anything that I was doing wrong, but that probably they were getting off their medication or Kaopectate and 7-Up just as soon as they thought they were feeling better and was over it, when, in fact, they should continue it for a few more days. So it was quite logical that some employees could have been sick one day and the next day they think they're fine to go to work, but they'd take their bottle of Kaopectate to work with them because they're working half a mile away from their room.

Senator HATFIELD. And in previous years you never had so many that came down with the so called "crud," so the symptoms were different and the numbers were different?

Mr. PEYTON. Well, the symptoms were the same except they didn't get over it in 1 day.

Senator HATFIELD. But the impact was longer?

Mr. PEYTON. Right. I wouldn't say we ever had more than, oh, maybe half a dozen on any 1 given day, and that would be a high number. Two or three is not unusual out of that number of employees. One time the second year I was at Crater Lake we had it occur and it just started going through us like wildfire, and I was new at it, I didn't know really what I was up against, so I called around for a doctor and finally got one from Chiloquin to come up that night, and I went around with the doctor and he examined every person that was ill. My recollection is that night there were 18 of them.

Senator HATFIELD. That date again was?

Mr. PEYTON. That would be about 1961.

Senator HATFIELD. Sixty-one?

Mr. PEYTON. Sixty or sixty-one; yes. And he diagnosed it as three different types of flu. One of them was causing vomiting, another was causing diarrhea, and I don't remember the other one. Anyway, he was treating them with three different medications and the next day they were well and that was the end of it.

Senator HATFIELD. This call you made to the doctors you say was made June 27?

Mr. PEYTON. I believe it was the 26th. It was a Thursday, I know that.

Senator HATFIELD. After you had that conversation with the doctors what kind of action did you take as it related to the communication of those instructions to the employees?

Mr. PEYTON. Nothing, just verbally to those that became ill.

Senator HATFIELD. Now, you posted, I believe it is dated here on this copy July 7.

Mr. PEYTON. Well, that was subsequent, much later.

Senator HATFIELD. Yes. But in this you indicate the kind of instructions the doctors gave you on the 26th?

Mr. PEYTON. Yes.

Senator HATFIELD. Had you issued any previous written instructions of this kind?

Mr. PEYTON. No.

Senator HATFIELD. Now, would you tell me about the hiatus in the time between the 26th when you had this conversation with these doctors who gave you these instructions about Kaopectate and 7-Up, and the problem up there and so forth, and July 7 when you made this information available in writing, when on June 30 you had a jump from 3 on the 29th to 13 on the 30th, and 48 on the 1st, 23 on the 2d, 13 on the 3d, 6 on the 4th, 6 on the 5th, 10 on the 6th, then you issued it on July 7th? I am puzzled as to the time difference here.

Mr. PEYTON. Oh, I don't know, except they started, I noticed the employees getting sick a second time.

Senator HATFIELD. The same employees now are getting a second dose?

Mr. PEYTON. Yes. It apparently had healed up once and now they were getting it again. I guess it was just so the employees would have as much knowledge as we did.

Senator HATFIELD. Miss Sexton, were you at this point carrying out these particular instructions that later were incorporated in the memorandum of the 7th?

Miss SEXTON. Yes; I was.

Senator HATFIELD. During the entire period of the illness?

Miss SEXTON. Yes.

[The memorandum of July 7, 1975 referred to follows:]

To: Employees.
From: Crater Lake Lodge.
Date: July 7, 1975.
Subject: Flu Bug.

The last ten days have not been pleasant because of the flu. Crater Lake Lodge and the National Park Service have been working intensively to discover the problem.

From talking to doctors throughout the state, this flu bug is wide-spread throughout the Northwest and probably brought into Crater Lake by tourists. It has been determined that it is not a bacteria and is not caused by the food or water, but it is an air-born virus. According to the doctors, it is a new strain that they have not isolated and do not have any new cure for.

When first afflicted, take at least four ounces of Kaeopectate and follow with at least two ounces every two hours until you feel you are healthy. Then continue with one ounce every four hours for two days. Sip 7-up, Bubble-up or some other sweet carbonated drink in small sips throughout the period to help sooth the stomach. Eat lightly; avoid starches and greasy foods and consume all of the liquids that you can handle. Do not hesitate to call the office or the house mother for assistance for food.

CRATER LAKE LODGE, INC.

Senator HATFIELD. Was that on the basis of your own professional training or previous experience, or from instructions from the doctors on the 26th of June?

Miss SEXTON. Upon instructions from the doctors.

Senator HATFIELD. So from the 26th forward you began this type of treatment?

Miss SEXTON. Yes.

Senator HATFIELD. For those symptoms and those that came down with it. What was your reaction when it jumped from 3 to 48 in 24 hours?

Miss SEXTON. I thought it was a rather large amount. I did report this to Mr. Peyton and Mrs. Peyton.

Senator HATFIELD. Did you suggest that maybe the doctors ought to be called again or some other additional action taken than that which you were then doing?

Miss SEXTON. I was really rather confused on the amount of people, and we did have a conversation. I think we all were rather confused on the amount of people that were getting sick.

Senator HATFIELD. When you say you were confused, why was that?

Miss SEXTON. Well; that is quite a few people that were getting sick.

Senator HATFIELD. So you were confused on the number that were getting sick?

Miss SEXTON. Right.

Senator HATFIELD. Not on why they were getting sick?

Miss SEXTON. Right.

Senator HATFIELD. Were you aware at this time then of these satistics I have just read that indicated these were people off-the-job, and I assume they were in the dormitory?

Miss SEXTON. Yes; they were.

Senator HATFIELD. Were there others who are not on this list, were not off their duty station, you knew to be ill?

Miss SEXTON. There could have been a few on their day off that were sick.

Senator HATFIELD. But none on their duty station, though?

Miss SEXTON. No. Some employees were sick, very likely they were not throwing up or they did not have fever or something to this effect, and they had maybe a slight case of diarrhea, and they themselves did not consider themselves sick.

Senator HATFIELD. And they were reporting for work?

Miss SEXTON. Yes. I might add the July 9 meeting with Dr. Koplan and Dr. Rosenberg was in the rec room, not all of the employees were at that meeting. There were just a few employees actually at that meeting.

Senator HATFIELD. About 75?

Miss SEXTON. Well, he stated 80.

Senator HATFIELD. Eighty.

Miss SEXTON. A lot of the employees were on their day off or did not consider the meeting important.

Senator HATFIELD. How do you know that they did not consider——

Miss SEXTON. Comments.

Senator HATFIELD. Comments they made?

Miss SEXTON. Yes.

Senator HATFIELD. Does this mean there were only about 80 persons out of 180 employees?

Miss SEXTON. Yes, sir.

Senator HATFIELD. Were there about 180 at that time?

Miss SEXTON. Yes.

Senator HATFIELD. Were these people who were on their day off, were they physically out of the park?

Miss SEXTON. A lot of them are officially out of the park, yes. I do not have a record of exactly who.

Senator HATFIELD. Were some on the sick list in the dormitory and not able to attend the meeting?

Miss SEXTON. Yes; that is correct.

Senator HATFIELD. According to this statistic there were 13 who were reported through the payroll account as being absent from duty on July 9.

Miss SEXTON. Yes.

Senator HATFIELD. Were there more you think than that who might have been ill in the dormitory?

Miss SEXTON. It is quite possible. It might have been their day off and they would not have been reported.

Senator HATFIELD. But at that same time could have been ill?

Miss SEXTON. Yes. Or the next day when Dr. Koplan and Dr. Rosenberg went into the kitchen into the cafeteria it was stated that five employees were found to be ill.

Senator HATFIELD. Yes.

Miss SEXTON. I know it to be a fact that two or three of those employees, that morning I spoke with two or three of those employees and they told me that they were well and they were going to work. And the only way I can remember this is because when they came back from the cafeteria they were stating they were sent home, and I said why? "Well, we're ill." And I said, "You told me you were well." It shocked me a little bit that they were at work and they had told me they were well but they actually were not well.

Senator HATFIELD. How did it shock you? You mean that they were——

Miss SEXTON. That they would report to work and actually they were ill.

Senator HATFIELD. To handle food?

Miss SEXTON. Yes. And they knew they were ill at the time.

Senator HATFIELD. Are you aware of any of these employees who ever stated in your presence that they were threatened with dismissal if they did not show up for work as has been alleged in previous testimony?

Miss SEXTON. I have heard nothing of that kind. I don't know of any employee that was threatened to be fired for not showing up for work. I myself when these employees became ill advised them to stay in bed, drink the liquids, and not to report to work the next day even if they felt better. A lot of employees were sick just a short period of time, and they would feel better and then would go out at night after they were ill that day, and the next day they might be ill or they might not have been.

Senator HATFIELD. When you interrogated these young people about whether they were sick or not, what was the symptom that you would expect them to make a determination on as to how they would answer your question? In other words——

Miss SEXTON. Well; I would ask them are you throwing up, do you have diarrhea?

Senator HATFIELD. Any of these symptoms?

Miss SEXTON. Yes. Does your stomach feel grumbly, you know. Do you feel you're running a temperature? I would ask these questions.

Senator HATFIELD. So it wasn't just a general question of are you sick?

Miss SEXTON. Right. I found if I asked the general question are you sick they would say no in some instances.

Senator HATFIELD. So you wanted to make certain those that had any of these symptoms?

Miss SEXTON. Yes.

Senator HATFIELD. Was this after the conference with Dr. Rosenberg and Dr. Koplan, and the instructions to take anyone with such symptoms out of food handling?

Miss SEXTON. No; this was before.

Senator HATFIELD. This was before?

Miss SEXTON. Yes.

Senator HATFIELD. About how long before would you say?

Miss SEXTON. After Mr. Peyton had talked to the doctors, well, I think it was toward the 2d and 3d of July that I really, the 1st, 2d, and 3d of July, that I really started questioning them in particular. Because they said that they were well and actually they were not, and so I would have to ask each questions.

Senator HATFIELD. Why would they tell you they were well again if they were not?

Miss SEXTON. I have no idea. Some employees thought that they were well, because we did not find out until later all of the symptoms. Sometimes they had diarrhea maybe 2 or 3 days after they had thrown up, or——

Senator HATFIELD. Are the employees paid on the days that they are listed as sick? That payroll would indicate that is a deduction, is that correct, for missing work?

Mr. Peyton, when you talk about the payroll, this daily report, on those that appear on that, are their wages deducted that day?

Mr. PEYTON. They were at the time. However, when we found out the cause of this, we went back, reconstructed the payrolls, and paid every employee for all time that they lost, whether we knew they were sick or not, but we suspected that.

Senator HATFIELD. At what point did you make this determination?

Mr. PEYTON. We did this on around the 1st of August sometime.

Senator HATFIELD. This was after the park closure and all? But at the time this illness was breaking out and you were calling doctors about these new characteristics, at that time and at the time which they were perhaps misrepresenting their true feelings to Miss Sexton, they were deducted at that time for each day?

Mr. PEYTON. That is correct.

Senator HATFIELD. So is it possible, do you think, Miss Sexton, in trying to make a judgment here as why perhaps some of the employees were saying they did not feel sick, it was in order to stay on the payroll?

Miss SEXTON. That could be quite possible.

Senator HATFIELD. Did any of them indicate this to you before or after or during the time this particular situation occurred?

Miss SEXTON. A few of the employees did say that they could not afford to lose the money. And of course, my response to this was, I think health is very important and to miss one day of pay because

you're sick, I don't know, I just don't think it is worth it to the body, you know, to jeopardize yourself this way.

Senator HATFIELD. What is the pay scale, Mr. Peyton, these young people receive, either hourly or daily?

Mr. PEYTON. The hourly employees, $1.75 an hour.

Senator HATFIELD. That is an 8-hour day usually?

Mr. PEYTON. It is a 40-hour week, and it is about 6 hours and 40 minutes a day, 6 days a week.

Senator HATFIELD. So, generally speaking, those who appeared on this particular sick list as it related to your payroll accounting, it would be six something times $1.75 would be deducted for each day they were on this list?

Mr. PEYTON. Yes.

Senator HATFIELD. Would that be generally?

Mr. PEYTON. Except in the past years, even this year, as much as possible if somebody is sick they quite often would switch a day off with some other employee so that they actually would be off a day but not have anything deducted from their paycheck. It was a convenience to the employee.

Senator HATFIELD. Mr. Peyton, what do you think would be the reasons, how would you explain these allegations which have been made and which have been denied, which Miss Sexton says she did not hear or was not aware of, how would you explain the reason that both the testimony here today and previous statements that have been reported from various and sundry sources, why would there be this rather serious accusation and allegation made? Are there circumstances that occurred there during this time that there would be some rational, logical reason for it?

Mr. PEYTON. Well, at this time we are trying to reconstruct something 2 months ago. It clearly is the policy people are not supposed to work when they're sick, and nobody is going to get fired for getting sick. However, some of the supervisors are young people and the same age, they're going to college, too, and it's not unusual for them to have an employee say I'm sick when they know darned well it was a hangover because they saw them up the night before or saw them coming in, or be actually sick one day and not take care of themselves and be up partying that night, then the next day reporting sick again. So I think they lose some sympathy for them at times, and you can hardly blame them. So sometimes people overreact, get a little overzealous. I don't doubt for a minute but what some employees got the impression that they would be fired, but they should certainly know better because we actually pay a bonus for people who have not quit.

Senator HATFIELD. Mr. Peyton, when you say they got this impression, from where would they get this impression?

Mr. PEYTON. They would have to get it from our supervisors or another employee.

Senator HATFIELD. From a student supervisor?

Mr. PEYTON. Yes.

Senator HATFIELD. Is there any conceivable way you think they may have gotten it from you?

Mr. PEYTON. No way I know of. There is one thing up at Crater Lake called the Crater Lake grapevine, and it is nothing but gossip.

Somebody says something and it is repeated, and the third time it is repeated it is unrecognizable. And when we live in a close-knit community like this, all kinds of wild stories are constantly circulated. We will hear them about the Park Service. I will call up Mr. Sims and say, is there anything to this? He will say, "I don't know what you're talking about." It would be something that was supposed to have come from him. We are checking our rumors all the time. So I can see where employees would get an impression at times. But the record will show that in 16 years no employee has ever been fired for being sick.

Senator HATFIELD. After the session with Dr. Rosenberg and Dr. Koplan, what specific steps did you take to comply with their instructions to keep people who had these symptoms out of the food-handling activity?

Mr. PEYTON. We did several things to attempt to keep the people out of the food services as they became sick, and they were becoming sick very quickly. They were becoming sick very quickly. In other words, they could come to work well, and by the middle of the shift they could go home sick. At first we were able to cover for these people by letting them go, and we have some extra slack built in to every department. In other words, the second week, starting about July 2, the recurrence coming back, we were finding that being more difficult because we already had worked people on their days off and well people on their days off. There were several days we did not run the food truck because we only had one person that could operate that truck, and they were sick. We did not open the fountain for several days until 11 o'clock in the morning because there were people sick in the fountain. And the cafeteria, we tried to go to frozen food, which is basic entrees that are prepared, and tried to work with the basic people in the kitchen.

On the second day Dr. Rosenberg and Dr. Koplan came around and found the five people that were sick, on the 9th, they had asked these people if they had had diarrhea in the last 24 hours. These people said they had. But when they came to work that morning they told me they did not have diarrhea that day. So I guess it was a question of how long before you get back to work sometimes after you have the symptoms.

Senator HATFIELD. Had you had any policy or instructions as to how long they should stay off the job once they had become ill?

Miss SEXTON. I really did not know at that time how long.

Senator HATFIELD. In other words——

Miss SEXTON. Later the doctors gave us instructions, but at that time we did not know whether it was 24 hours, 48 hours, 10 minutes, what it was free of symptoms.

Senator HATFIELD. In other words, as I understand your procedure it was based on the exact moment at which you interrogated the employee as to whether he had the symptoms?

Miss SEXTON. Or they came to one of the supervisors and said they were sick.

Mr. PEYTON. Mr. Fritz gave us these instructions about 1 day, 4 days, 7 days, to be effective whenever we reopened on August 1.

Senator HATFIELD. But not at the time this was occurring?

Mr. PEYTON. No, sir.

Senator HATFIELD. You had no instructions at this time?

Mr. PEYTON. No.

Senator HATFIELD. The doctors on the 26th when you were discussing this matter with them on the telephone did not indicate to you any kind of a time they should remain off the job once they had recovered before they returned?

Mr. PEYTON. No, because our historical experience had been they would get sick one day and the next day they would be fine.

Senator HATFIELD. And would they be back to work the next day?

Mr. PEYTON. They would be back to work the next day.

Miss BORISCH. I would like to add we hired approximately 10 extra employees to put in food service positions when the people became sick to cover, but lo and behold, 24 hours after we had hired them they became sick, too. Now, on the day Dr. Koplan went in and asked these food servers had they had diarrhea in the last 24 hours, I was shocked because I thought they were well. He said, "What are you going to do about it?" I asked him, "What should I do about it? Should I close the cafeteria, or what?" He said, "No, I will get back to you." He never did get back to me. I talked to Mr. Peyton that evening and we decided to close the lodge dining room.

Senator HATFIELD. Why did you make that decision?

Miss BORISCH. Because we did not have enough people.

Senator HATFIELD. It was a manpower question rather than health question?

Miss BORISCH. Right.

Senator HATFIELD. The health question was the cause of the manpower shortage, but it was strictly a manpower shortage problem?

Miss BORISCH. The cafeteria is where we feed our employees, we had to keep that open to feed our employees plus the guests in the area. And I had anticipated keeping the dining room closed, but in the meantime we found the raw sewage.

Senator HATFIELD. Were you aware any of the employees had made the statement they would be fired or dismissed if they didn't show up for work even if they were sick? I am not talking about this time after the conversation with Dr. Rosenberg and Dr. Koplan on July 9, but I mean prior?

Miss BORISCH. Well, I heard the gossip and allegation, but I never made that statement, I don't know of any of my staff that made that statement.

Senator HATFIELD. Had you ever seen anything in the kitchen of a bucket——

Miss BORISCH. That was new to me today.

Senator HATFIELD. Were you aware of people swigging Kaopectate while they were still working in the kitchen?

Miss BORISCH. Not in the kitchen. I observed them doing it in the gift shop, but I never observed them doing it in the kitchen.

Senator HATFIELD. Can you explain why these serious allegations were made not only to each other? You know when we talk about gossip within the group that is one thing, but when these statements are made to people outside, such as we have heard here today, that is a little more than gossip, is it not?

Miss BORISCH. Some of these employees, they were sick and they were not happy with their jobs. Some of them were not working, were

not making the salary like they intended because they were missing days of work. I think there were disgruntled employees and they started making statements, and it was built upon and the allegations became larger and larger as they have today.

Senator HATFIELD. Have you ever heard any such allegations in previous seasons?

Miss BORISCH. No.

Senator HATFIELD. Would you care to comment, Mr. Edwards, on this subject as to whether or not you head such allegations and how you would explain such allegations?

Mr. EDWARDS. The allegations you are referring to of people being fired?

Senator HATFIELD. If they did not work while they were ill.

Mr. EDWARDS. I had heard that. It did not happen. My staff was told that they would not be fired. On two occasions this summer I have instructed two of my employees that they had to work, one was a student——

Senator HATFIELD. They had to work?

Mr. EDWARDS. That is correct. One was a student minister, he went out and got crocked and I made him work and he had a hangover, and it was a character building experience. The second time this occurred it was a very similar situation. One of the employees had a birthday, he had a hangover the next day—this was also during the period when people were suffering from gastroenteritis. I told him he had to work because he had a hangover, I was short of people and I needed him. These are the only two occasions when I am aware of that anyone was forced to work.

Senator HATFIELD Those are the only two cases? Did they know why you were demanding they appear on the job?

Mr. EDWARDS. Yes, sir, that is correct.

Senator HATFIELD. You never overheard Mr. Peyton or Mrs. Peyton or any such person make any such threats to any employees?

Mr. EDWARDS. I have never heard a threat of that sort. On July 7 I believe Mr. Gilmore called the supervisors together and told us we could not have employees working that were suffering from diarrhea and vomiting. The next morning I set a special meeting with my employees and told them this, that they could not work if they were ill. Consequently, I believe there were two different days when we closed the lounge and restaurant early to supply well people in other areas, in food service areas in the cafeteria. And people that were ill were allowed to leave their shift early if they came and told me they were in actuality ill and not a hangover.

Senator HATFIELD. Based upon those symptoms of vomiting?

Mr. EDWARDS. If they came and told me they were vomiting and were ill.

Senator HATFIELD. At this time on July 10 did you refuse Dr. Koplan and Mr. Barnes permission to inspect the lounge until they had specific consent from Mr. Peyton?

Mr. EDWARDS. They did not ask to inspect the lounge, Senator, they asked to inspect the kitchen and bar area. To my knowledge that is private property. I have also been told it is in the contract with the Federal Government that an employee of the company, a management

employee, must escort anyone who wishes to inspect behind a bar. I don't know if this is correct or not, this is hearsay. But the purpose of this is so that if there are any irregularities going on in a kitchen area or bar area, if anything is wrong, a piece of equipment is broken down, anything needs correcting, management is there and it can be corrected immediately.

Senator HATFIELD. From whom had you received these instructions?

Mr. EDWARDS. I have always been told the last 3 years I have worked at Crater Lake that no one other than Mr. Peyton, Mr. Gilmore, or Mr. Happle is allowed to bring anyone back behind the bar or kitchen area, and I think there is a valid reason.

Senator HATFIELD. Even for inspection?

Mr. EDWARDS. Even for inspection. And the Park Service comes to us and asks us to contact one of these gentlemen to escort them behind the counter area.

Senator HATFIELD. I asked you whom you had received those instructions from, who told you that particular statement you just made?

Mr. EDWARDS. Who told who?

Senator HATFIELD. Well, I am asking again who gave you these specific instructions?

Mr. EDWARDS. About taking people back behind?

Senator HATFIELD. Yes.

Mr. EDWARDS. Either Mr. Peyton or Mr. Gilmore.

Senator HATFIELD. How long have you been at the lodge?

Mr. EDWARDS. I have been an employee for three summers.

Senator HATFIELD. Three summers?

Mr. EDWARDS. Yes.

Senator HATFIELD. Were you ever aware in any previous season of allegations along this line that were made by any of the student employees?

Mr. EDWARDS. Never.

Senator HATFIELD. Were you aware of a cook in the cafeteria becoming ill, of being ill while on duty?

Mr. EDWARDS. No, sir, I did not know that.

Senator HATFIELD. Do you know whether or not Mr. Wheeler was ever threatened on voicing concern about a cook being ill?

Mr. EDWARDS. No, sir, I know nothing of that.

Senator HATFIELD. Are any of the other persons here aware of anyone acting as a cook in the cafeteria and performing that duty while ill, and of a Mr. Wheeler having been threatened for voicing concern about the cook being ill?

Mr. PEYTON. Senator, I heard afterwards that the cook had been ill and was working at the time, but he apparently didn't think he was too sick to work. But I didn't know about it at the time. By the time I learned about it, it was after some of the doctors had been up and gone around and were asking questions that I was informed of it.

Mr. GILMORE. I was Mr. Wheeler's immediate supervisor, and I did not ever threaten him for any such reason.

Senator HATFIELD. Had you heard of this alleged threat?

Mr. GILMORE. I cannot recall at the time. I did find out that the cook was ill, and as soon as I found out we relieved him of his duties in the kitchen.

Senator HATFIELD. How did you find that out?

Mr. GILMORE. I do not remember. I think the cook told me he was sick, I am almost positive, but someone else might have mentioned that he was sick and I questioned him about it. But I cannot recall Mr. Wheeler mentioning it specifically, and I did not threaten him.

Senator HATFIELD. Mr. Peyton, had you given any such instructions to Mr. Edwards concerning persons behind the bar?

Mr. PEYTON. Yes. It is not in our contract as he surmized, it has been a policy between the Park Service and ourselves. We get lots of inspections, we get them for health and OSHA, fire, sanitation all the time, and they come up with different groups of rangers, and I would say every few days we get an inspection of some kind. We also get inspections from insurance companies.

A place like where we are with limited fire protection from outside our sprinkler systems, we have to pretty such rely upon say probably 50 different insurance companies on our risk, and we have two or three each summer, new companies come up and want to inspect the property. So we can't let every Tom, Dick, and Harry walk through the buildings from attic to cellar to kitchens. In lots of cases we have a tremendous amount of merchandise stored. It is also a fire protection. But mainly if one of our men, Mr. Happle, Mr. Gilmore or myself is accompanying him on an inspection, if there is anything that is noted that is incorrect, we make a notation or discuss it and get it corrected immediately, otherwise we might not know about it for 2 or 3 weeks until they got a report made.

Senator HATFIELD. As I understand this is a standard operating procedure that you utilize for all inspections, including Park personnel or others, they must obtain permission from you?

Mr. PEYTON. That is right. Mr. Sims would not come up and walk through one of our kitchens without getting one of us to go with him.

Senator HATFIELD. Let's continue with your formal statement.

Mr. PEYTON. The concessioner had approximately 180 employees in its service during the time covered by the above dates. My wife, my son, the son of my business associate and myself were all present in the park during the times mentioned, and we all became ill with sewage poisoning.

We believed, however, that we were suffering from an extra-severe case of flu. Our belief was based on several factors. First, historically we have always had a summer flu, or Crater Lake Crud. Second, in a telephone conversation with Mr. Harry Christensen, manager of the Oregon Caves National Monument, he informed me that his employees had had their normal "summer flu." Third, our employees had reported that during trips to surrounding communities there was considerable talk of people having the flu. Fourth, in telephone conversations to personal doctors in Klamath Falls and in Portland I was told that our symptoms sounded like the flu, and that in Portland there was a substantial amount of flu. Fifth, we sent those of our sick employees who wanted to see doctors to the Presbyterian Intercommunity Hospital in Klamath Falls and when no unusual diagnoses were reported we assumed they had no extraordinary problems. Sixth, we had heard that Park Service employees had been ill with similar symptoms and, since no word was received otherwise, we assumed that we had whatever they had and that it must and would pass in due course. Seventh,

when Mr. Von Ohlen of the Oregon State Health Division was in the park sometime after the first of July, he reported that he had had some of the same symptoms before he came to the park, that the symptoms had gone away and come back again, and that the illness we were suffering appeared to be the same thing.

By July 2, it appeared that whatever it was we were suffering was on its way out. By July 3, just 2 days after the largest number of our employees were ill, the Oregon Public Health Division representatives were in the park investigating the problem.

On July 4 a team of experts from Oregon State Health Division were in the park. At this time our kitchen facilities were inspected and we were assured that no condition existed in the kitchens that would cause food poisoning. In fact, these experts found no problems that would account for the widespread illnesses.

Once the Public Health people came into the park we believed they were handling the matter doing whatever needed to be done. Since we received no instructions to the contrary we continued operations as usual on the assumption that there was no need to panic or cause panic. Our operations continued as usual until the night of July 10, 1975, at which time we were informed that the park was being closed.

The next morning the visitors to Crater Lake National Park were asked to leave. After the park closed we furloughed, at full pay, about 120 of our employees. The remaining employees remained at the park to help in the process of sterilizing any of our facilities where contaminated water might have had opportunity for contact. In addition to the use of our own employees, we hired professional cleaners to assist in the sterilization of our facilities under the supervision of Public Health authorities. Sterilization procedures were completed and the park was reopened on August 1.

I would like to emphasize, although we had a large number of employees ill, including myself and my immediate family, that we had every reason to believe it was a short-term summer flu or some other not very serious problem; that we had nothing to do with the testing of the water; that we assumed that if anything of major proportions were wrong, the National Park Service or the Public Health officials would take whatever steps were necessary to protect us and the public; and that in fact, the park operated for over 6 days after the Public Health doctors arrived and for over 10 days after the Public Health doctors decided that there might be some type of problem at Crater Lake National Park.

We have operated the concession facilities at the park for many years, and sincerely hope to remain in this business for many years to come. For the park to serve its primary purpose to the public as well as for our business to survive, it is necessary that people be able to trust in and rely upon the fitness of the water for human consumption. Since, like the general public, we rely on the Park Service to provide the water used in our facilities we believe this hearing and other steps that have been taken by the National Park Service will provide the emphasis necessary to insure that the water system is never again contaminated. Thank you.

Senator HATFIELD. My Peyton, let's now go to the source of these notices that the park administration and I believe also Crater Lake Lodge Corp. utilized during this period of time. Let me begin

by asking you the question, When did you advise the Park Service of illness among your employees?

Mr. PEYTON. I don't know that I ever did.

Senator HATFIELD. And you had this extraordinary increase in the number of illnesses, and you sought out the counsel or advice of two physicians on June 28th, then you had a high of 48 on your payroll sick list, yet you at no time in all of this thought it necessary or important to inform the Park Service?

Mr. PEYTON. Well, I was dumfounded when I found that figure 48, because at the time I didn't believe we had any time over 25 sick until——

Senator HATFIELD. But 25 is still an awfully big increase.

Mr. PEYTON. Well, that is true. But we thought also we were dealing with a contagious thing. Then all of a sudden, wham.

Senator HATFIELD. And it was so contagious, and at the same time you were dealing with a great number of the public, weren't you?

Mr. PEYTON. Yes, but our employees live in close confinement, 12 to a room and the sleeping porches where there is maybe 40 on one sleeping porch. And we had had this in previous years, and it wasn't unusual when the employees were all domiciled in the lodge four to a room and six to a room when one person got sick within a couple of days their roommates got sick, and that is what we felt we were dealing with. Out in the fresh air it was something else, and we had no knowledge that anybody outside the park was getting sick.

Senator HATFIELD. Were you aware that the employees of the Park Department were ill, all the YCC people were ill?

Mr. PEYTON. I didn't know the YCC kids were sick, no, but we had heard of some of the employees down in the Park Service being sick, because two of them down there were employed by us, we knew they had gotten sick.

Senator HATFIELD. Now, you have heard the discussion of the previous witnesses about these notices that were posted, caused to be posted, signed by Richard H. Sims, superintendent of the park in two instances, and the issues that were raised as to the posting of these in the lodge, and the removal of these notices in the lodge of the sign that was put up by you as indicated by the previous witnesses to the effect that this water has been adequately chlorinated and tested daily by the U.S. Public Health Service. Now, I won't go back to recount, because I am sure you are very much aware of the details of these allegations, and so in consideration of the time element why don't you just respond to these allegations at this time??

Mr. PEYTON. There was a meeting in my office, I think it was the morning of July 9. Dr. Koplan or Dr. Rosenberg and myself, my wife, Glen Happle, and there might have been some others that I don't recall being there. Oh, Julie was there. And Dr. Koplan showed me a copy of a handout that they were going to start handing out at the gate to every car that comes in. And I read it and I said, "How come?" He says, "Well, we're not satisfied with the chlorination we're getting up here." He said, "They're not getting enough chlorine down at park headquarters, and that is all of their buildings down there." And he said, "Your cabins are not reported showing enough chlorination." And at that time they were beginning to be suspicious of the water, but probably thought—well, I don't know what they thought,

but I was getting the idea if chlorination was heavy enough it probably wouldn't be a problem. But lack of chlorination was contributing to the problem. I said, "Why the cabins?" The waterline crosses right from the cafeteria to the cabins. He said, "I don't know, but we tested down there." He said, "The lodge is testing fine, the dormitory is testing good, so is the cafeteria." He says, "We want these signs put up to advise the public."

Senator HATFIELD. Let me interrupt. Which signs are you referring to?

Mr. PEYTON. The one advising the public to either boil the water or put iodine in it.

Senator HATFIELD. I think this is probably what we refer to as the first notice, is that correct?

Mr. PEYTON. That is right, yes.

Senator HATFIELD. All right.

Mr. PEYTON. So this sign they posted on the front of each of the cabins and also posted one in the lodge, I don't know how many, and in the cafeteria building adjacent to drinking fountains, and in the public restrooms, and I don't know where all. And it was very confusing to me as to why have a sign there at a drinking fountain telling them to put iodine in and boil it and still have it there available to drink, and they just got through saying there was enough chlorine in it that there was no problem. So after discussion he agreed that we should put up this sign. It is a copy of the same thing that says, "This water has been adequately chlorinated and is tested daily by the U.S. Public Health Service." So when we put that up we took the other ones down.

Senator HATFIELD. Now, Mr. Peyton, you are saying, as I understand it, that when you were shown notice No. 1, which you have just identified posted July 9, that you had been assured that the water had passed the test, the chlorine test in the lodge and in the cafeteria?

Mr. PEYTON. Yes.

Senator HATFIELD. And in the cabins?

Mr. PEYTON. No; in the dormitory. But the cabins for some reason or other were not carrying enough chlorine.

Senator HATFIELD. And you indicated to Dr. Koplan you saw no reason why such a sign should be posted at the drinking fountain and lodge, whereupon Dr. Koplan you indicated, I believe, agreed you could take down the sign and put up in lieu of that this sign we have as exhibit 5 which says, "This water has been adequately chlorinated and is tested daily by the U.S. Public Health Service," is that correct?

Mr. PEYTON. That is correct.

Senator HATFIELD. Now, are you aware of the affidavit that Dr. Koplan has since submitted dated the 29th day of August 1975 in which in questions 21 and 22 he had this to say:

AFFIDAVIT

This affidavit of Dr. Jeffrey P. Koplan given to United States Internal Commitee Staff Member, Walter S. Fialkewicz on August 29, 1975 at 2 P.M. in Room 708, of 201 Varick Sreet, in the presence of Dorina Rizzi, Clerk-Stenographer.

F: Dr. Koplan this affidavit will be in a question and answer form, do you agree to make such an affidavit?

K: Yes.

F: Will the affidavit you give be of your own free will?

K: Yes.

F: Are you aware of your rights in that you do not have to make this statement or affidavit without the advice of your attorney?

K: Yes.

F: Will the answers you will give be the truth and be given without any duress placed against you?

K: Yes.

F: They will be of your own free will?

K: Yes.

1. F: Dr. Koplan state your position with Public Health Service, and your formal training and your experience in the field of Epidemiology.

K: I received my Medical Doctorate Degree from Mount Sinai School of Medicine, New York in 1970. I did post-graduate training in Internal Medicine at Montefiore Hospital, New York and Stanford University. I am currently in my third year of service with C.D.C.

I am a Medical Epidemiologist, Bureau of Epidemiology, C.D.C., U.S. Public Health Service.

2. F: With relation to the Crater Lake incident, when were you told to go to Crater Lake National Park?

K: I was called on Sunday morning, July 6, 1975, by Dr. Ronald Roberto, Acting-Chief—Infectious Diseases Section, California State Health Dept. He stated that he received a telephone call from Dr. Conrad requesting assistance at Crater Lake National Park.

3. F: Were you given any specific instructions?

K: To go and make a study.

4. F: Did Dr. Roberto tell you of his suspicions?

K: Dr. Roberto referred me to Dr. Conrad. I called Dr. Conrad and he gave me some preliminary information that he had received from Dr. John Googins as to the outbreak of gastro-intestinal illness in Crater Lake National Park.

5. F: On arrival at Crater Lake National Park, who did you first speak with?

K: Mr. Richard Sims, superintendent.

6. F: What was Mr. Sims' description of the situation at the park?

K: He stated that a number of people had been ill. He thought, though, that the situation was coming under control, but upon my arrival he felt that the situation had worsened again.

7. F: Did he describe it as Gastro-Intestinal or Flu?

K: He said the people were sick, "sick" meaning symptoms of diarrhea and vomiting.

F: What instructions did you give to the Y.C.C. and N.P.S. staff concerning the usage of water after reading the Klamath County report?

K: The Y.C.C. staff wanted to know what I would recommend *if* the water was contaminated.

I stated that there was inadequate evidence to prove water contamination on the basis of one water specimen. However, if that specimen were confirmed, than I would take steps to ensure that water was either boiled or adequately chlorinated prior to ingestion. Pending confirmation, the Y.C.C. staff elected to take precautionary measures with water to be used for ingestion. I had no discussion with the N.P.S. regarding this.

F: When did you inform Dr. Gangerosa of the report from Klamath County?

K: I learned of the contaminated specimen on the night of July 7, and informed Dr. Gangerosa in a telephone conversation on the morning of July 8. He confirmed my evaluation of the significance of the specimen.

F: On the evening of July 8, 1975, Dr. Mark Rosenberg arrived at Crater Lake, when he saw the report what was his comment?

K: Dr. Rosenberg agreed that the report was disturbing, but not conclusive.

F: Did you or Dr. Rosenberg discuss the report with Mr. Sims.

K: I think so.

F: On 9 July, you and Dr. Rosenberg made a preliminary assessment of the situation and reported same to Dr. Gangerosa, briefly what was that report?

K: An outbreak of gastrointestinal illness had occurred in the park, characterized by diarrhea, cramps, vomiting and nausea. The attack rate was over 90%. The median period between arrival in the park and onset of illness was 48 hours. The first case we had detected occurred on June 16. Due to the widespread nature of the illness among several sub-groups of the park popula-

tion and the high attack rate, we suspected water as playing a role in disease transmission

13 : F : What was Dr. Gangerosa's opinion and advice at that time?

K: Dr. Gangerosa suggested we broaden our epidemiologic; survey; in particular to include visitors and staff at the rim area. He stated the need to increase the numbers of non-sick persons and non-water drinkers in the survey so as to obtain valid statistical data. He suggested we obtain multiple water specimens for chlorine testing and bacteriological testing.

14. F: On 9th of July, did you and Dr. Rosenberg consider the closing of the food and water facilities in the park?

K: Not until after the collection of data at the lodge dormitory on the evening of the 9th. After midnight on the 10h, we discussed he possibility of closing the dining facilities in the park.

15. F: Did anyone at Crater Lake, after that discussion request or direct you not to close the dining facilities ?

K: No. On the morning of the 10th in a conversation with Dr. Googins, Dr. Rosenberg and I discussed closing the dining facilities in the park Dr. Googins desired this closure and we stated that we would have to discuss this step with our supervisor in Atlanta prior to making a recommendation to Park personnel.

16. F: Did Mr. Ralph Peyton or Mr. Richard Sims voice any objection to closure of the park at this time?

K: We did not discuss this with Peyton. Mr. Sims had no objections

17. F: You called Dr. Gangerosa and what was his advice as to the closure?

K: Dr. Gangerosa felt that there was inadequate basis for closure of the dining facilities for the following reasons:

1. We did not have sufficient epidemiologic data to incriminate water as the vehicle of disease transmission.

2. We did not have data on illness from visitors to the park on July 7 and 8 to suggest an ongoing outbreak.

18. F: On 9th of July, you dictated an announcement to "all visitors" which stated the possibility of the contamination of the water. This notice was posted and passed out to the visitors—now I show you this notice. If it is a copy of the one you prepared would you initial and date it and make it as Attachment #1 as the one you prepared.

K: Yes.

19. F: On this same date, did you have a discussion with Mr. and Mrs. Peyton concerning than notice?

K: Yes.

20. F: Did you agree to have the notice changed and would you please clarify?

K: In the meeting with Peytons, Dr. Rosenberg and I discussed the fact that no ill persons should work in food handling; that water was a possible vehicle of disease transmission and should be boiled or chlorinated; that on two successive samples, water tested in the lodge area showed chlorine levels of 0.5 ppm and that this level seemed adequate for water treatment. We advised monitoring water specimens for chlorine levels at least twice a day. We stated that signs could be placed at water sources stating that the water was adequately chlorinated.

21. F: Did you tell Mr. Sims that the Peytons could put their own sign in place of the original notice.

K: The removal of existing notices was not suggested, nor was the issue of removal discussed.

22. F: Did you approve of the wording of the Peyton sign to be posted?

K: No.

23. F: I show you a copy of the sign or wording of the sign that was posted by the Peytons—would you read this sign and initial and date same and mark as Attachment #2.

K: See Attachment #2.

24. F: Did you tell Mr. Sims that the Peytons could put their own sign in place of the original notice.

K: Not "in place of" our original notice but that they could place a notice of adequate chlorination at water sources that had been tested that day.

25. F: Were the Peytons cooperative in this investigation?

K: Yes.

26. F: Did you ever imply or suggest that the posted notices be removed?
K: No.

27. F: Did you ever discuss with Peyton his allowing or instructing sick food handlers to continue work in the dining facilities and what was your instruction?
K: Yes. At our first meeting, July 9th, we emphasized that no ill persons should work in any phase of food preparation and we reemphasized this precaution in subsequent conversations.

28. F: Did you observe him violating such instruction by allowing these people to work while sick?
K: We observed on July 10th, that ill persons continued to work in the kitchen areas but, I do not know whether Mr. Peyton had knowledge of this.

29. F: On July 10th, when the sewage overflow was discovered, who made the decision to close the park?
K: Dr. Rosenberg, Mr. Titus, Mr. Barnes and myself recommended to Mr. Sims that the park be closed.

30. F: Did you give any specific instructions on closure to Mr. Peyton?
K: No. Dr. Rosenberg spoke with Mr. Peyton on the night of the 10th.

31. F: Did you know what Dr. Rosenberg's instructions were and did you find any evidence that Peyton or his employees violated such instructions?
K: Dr. Rosenberg's instructions were for Mr. Peyton to see that his guests and staff were informed of the water contamination, and precautioned against its use as soon as possible.

32. F: Going back a few questions, on whose suggestion or instruction did NPS personnel make a search for sewerage overflow?
K: Mr. Jeff Adams and/or his staff located the sewerage overflow, at whose suggestion I'm not sure.

JEFFREY P. KOPLAN, M.D.,
CDC–PHE.

WALTER S. FIALKEWICZ,
Witness.

DORINA RIZZI,
Stenographer.

The INTERROGATOR. Did you tell Mr. Sims that the Peytons could put their own sign in place of the original notice?

Dr. KOPLAN. Removal of existing notices was not suggested, nor was the issue of removal discussed.

Question 22. Did you approve of the wording of the Peyton sign to be posted?

Dr. KOPLAN. No.

Mrs. PEYTON. May I answer that?

Senator HATFIPLD. Yes.

Mrs. PEYTON. I have here the piece of paper that I wrote down on and said to Dr. Koplan, "Now is this the sign we may post," and he said yes, because I found it over by our little printing press in our cafeteria about 10 days later.

Senator HATFIELD. Would you tell me again to what you are referring now?

Mrs. PEYTON. When Dr. Koplan told us the water was adequatelv chlorinated and tested daily by the U.S. Public Health Service he said, "You may post signs as such." I'll testify to it if you want me to.

Senator HATFIELD. Did he say you could remove the other sign?

Mrs. PEYTON. Yes; he said we could replace them with this sign and I wrote it down: "This water has been adequately chlorinated and is tested daily by the U.S. Public Health Service." And I called the stockroom and he printed this sign for us. Well, I took it over and I found it lying over there.

Senator HATFIELD. Again for the record, you are referring to a personal note made at the time of the discussion, is that correct?

Mrs. PEYTON. Yes. And I showed it to Dr. Koplan, and I said, "Is this all right to post this?" And he said yes.

Senator HATFIELD. Were you then with Mr. Peyton at the time this discussion, the total discussion was held with Dr. Koplan concerning a sign?

Mrs. PEYTON. Yes; I was.

Senator HATFIELD. Was there anyone else present?

Mrs. PEYTON. Yes; Mark Rosenberg and Julie Sexton and Glen Happle. There may have been someone else, but those I do remember.

Senator HATFIELD. Do you recall this particular conversation and discussion on the question of taking down the sign which had been posted by the Superintendent of the park warning people concerning the use of water and the acceptance or approval by Dr. Koplan of the replacing of such a sign with this sign?

Miss SEXTON. Yes; I do. I observed the conversation, yes.

Senator HATFIELD. Just tell us again how this occurred or what was said by whom.

Miss SEXTON. Exactly what Mrs. Peyton just said, they would okay that notice that you're holding in your hand, Dr. Koplan and Dr. Rosenberg.

Senator HATFIELD. Was Dr. Roserberg present at this time?

Miss SEXTON. Wasn't he there? I believe so.

Mr. PEYTON. Yes.

Mrs. PEYTON. I believe so.

Miss SEXTON. Yes, both doctors.

Senator HATFIELD. Does Dr. Rosenberg disagree with this account of Mr. and Mrs. Peyton and Miss Sexton?

Dr. ROSENBERG. I do not remember discussing the precise wording of that sign. We did give permission to put up the notice saying the water in those specific locations was adequately chlorinated. It was a surprise to me when I saw the last two lines, ". . tested daily by the U.S. Public Health Service." do not recall at all discussing that wording.

Senator HATFIELD. Did you observe or participate with Dr. Koplan in giving the Peytons permission to take down sign number one which had been authorized prior?

Dr. ROSENBERG. No, sir, the question of taking down those signs did not come up. I did not give any permission to take down those signs.

Senator HATFIELD. But you did say this particular sign would be all right to put up?

Dr. ROSENBERG. No, sir, not that particular sign, but a sign saying the water was adequately chlorinated in those areas.

Senator HATFIELD. Would the sign as worded here be in violation or not in conformity with the type of sign you had in mind when you indicated it would be acceptable to put up such a sign?

Dr. ROSENBERG. That is right, that would not be in violation.

Senator HATFIELD. This would not be out of conformity with what you would expect?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. But it was your idea it would not be one or the other, but there would be two signs up?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. Not one trading for the other, but there would be two signs in perfectly good view for the casual visitor?

Dr. ROSENBERG. We believed that the public should be notified about the water problem that existed throughout the park, and that is why we believed that the first notice should remain prominently displayed throughout the park. We believed that certain locations the water was adequately chlorinated, and a sign such as that would express that.

Senator HATFIELD. And this sign it was adequately chlorinated would be appropriate to be placed in the lodge, because the source for the water in the lodge was adequately chlorinated?

Mrs. PEYTON. Senator Hatfield, everyone received those pamphlets as they came in the park.

Senator HATFIELD. Yes; the notice?

Mrs. PEYTON. Yes.

Senator HATFIELD. Did Mr. or Mrs. Peyton indicate to you it was their desire to take sign number one down if they put up the sign that they made up on adequately chlorinated water?

Dr. ROSENBERG. Mr. Peyton indicated he was very unhappy with the distribution of the sign, the first notice, and the wording of the first notice, he did not indicate his intention of taking that sign down.

Senator HATFIELD. This notice No. 1 was not a part of the discussion at this time?

Dr. ROSENBERG. That is correct.

Senator HATFIELD. It was only the question of adding a second sign?

Dr. ROSENBERG. Correct.

Mrs. PEYTON. Well then, Senator Hatfield, I was probably in error, because my understanding was we could replace them.

Senator HATFIELD. All right.

Mr. Peyton, I have one other question or two. When were you first informed of the possibility that the park or the facilities within the park might be closed?

Mr. PEYTON. I don't know that I ever got that impression. When they started passing out signs on the morning of the 9th, was the first indication that they were putting strong suspect on water. Because after that time all the emphasis as far as I knew, was trying to prove or disprove that our food operations was contributing or that it was some sort of contagious flu, and we had no reason to suspect the water. All that water, which we thought was pure as the melted snow for over 50 years, and as a matter of fact I have asthma and I am very susceptible to chlorine and its always a pleasure for me to get back in the park and quit drinking that Portland water which is the most heavily chlorinated water in the Pacific Coast. And I get down here and the water here, to my knowledge had not much more than token chlorination. It smelt and tasted good to me. But sometime in June, and I don't know just when I noticed that the chlorination in the water was stepped up heavily, because it virtually made me gag when I'd take a shower it was so strong. If there had of been anything in the water there was enough chlorine in there, I think it would have killed everything. I've been to Mexico several times, with a trailer and as standard practice we would fill our reservoir right from the service station pump which we knew was not good water and only had to add

one teaspoonful of clorox to five gallons of water and you don't get sick.

Senator HATFIELD. So when do you recall, Mr. Peyton, when you first heard about the decision, or that the decision might come concerning closing facilities in the park?

Mr. PEYTON. About midnight on the 10th.

Senator HATFIELD. That is the night before the park was actually closed?

Mr. PEYTON. Right.

Senator HATFIELD. The first time then that you had any inkling that there might be this decision to close either facilities within the park or the entire park was on about midnight on July 10th?

Mr. PEYTON. That's right. Of course I was aware at that time of the fact that there was raw sewage going into the water system.

Senator HATFIELD. Did you come into that information at what time? About when?

Mr. PEYTON. Well the Superintendent learned of it and he went down and took pictures and apparently he got the only pictures of that system when it was coming out of the manhole.

Senator HATFIELD. This was on the day, December 10th—July 10th?

Mr. PEYTON. Yes.

Senator HATFIELD. During the day?

Mr. PEYTON. During the day. Oh I'd say it was about, well he still had good light to take it without a flash. Probably about 7:30 or 8 o'clock, something like that.

Senator HATFIELD. 7:30 or 8 o'clock at night?

Mr. PEYTON. At night.

Senator HATFIELD. On July 10th?

Mr. PEYTON. Right.

Senator HATFIELD. And then you heard, did this, at this time, with this picture, these pictures, did that indicate—well are these Polaroids?

Mr. PEYTON. No.

Senator HATFIELD. So you had no pictures then on July 10th? They were taken on July 10th?

Mr. PEYTON. That's right.

Senator HATFIELD. So you had no prints of those pictures until after this whole decision was made to close the parks?

Mr. PEYTON. Till we got those developed, yes.

Senator HATFIELD. On that date then of July 10th, when you heard such raw sewage was flowing through this area did this raise, in your mind, the possibility that the park or the faclities within the park might be closed?

Mr. PEYTON. No.

Senator HATFIELD. You didn't—that thought did not come to your mind?

Mr. PEYTON. Uh, well it was obvious something was going to have to be corrected. But the idea of closing the park just didn't enter my mind.

Senator HATFIELD. And then when you heard this news on midnight of July 10th, and what was the word that you heard at midnight on July the 10th?

Mr. PEYTON. Well the park wasn't closed that night. The park was ordered closed next morning.

Senator HATFIELD. Yes, but what did you hear at midnight?

Mr. PEYTON. Another sign was posted around which said "Don't drink the water."

Senator HATFIELD. This was the second sign now that we are talking about?

Mr. PEYTON. That's right.

Senator HATFIELD. Which they gave two specific instructions.

Mr. PEYTON. That's right.

Senator HATFIELD. When did you first see that sign that was dated July 10th? On that date of July 10th?

Mr. PEYTON. Oh about midnight.

Senator HATFIELD. About midnight. But this is still not the decision to close the park?

Mr. PEYTON. No.

Senator HATFIELD. Then when did you hear about the park being closed?

Mr. PEYTON. The next morning.

Senator HATFIELD. On July 11th?

Mr. PEYTON. Right.

Senator HATFIELD. And the park was closed, or was in the process of being closed or about to be closed when you heard about it?

Mr. PEYTON. They hadn't let anybody else enter, and we were not allowed to serve any food.

Senator HATFIELD. What time was this on July 11th?

Mr. PEYTON. I am not sure about 8–8:30 something like that.

Senator HATFIELD. Now what was your reaction, when you heard this decision to close the park had been made?

Mr. PEYTON. Well the first reaction that I got it was a little hasty and I could see that they had a water problem but I couldn't see any reason to close the park to the public, they should still be allowed to come up and look at the lake, as long as they didn't drink any water.

Senator HATFIELD. Did you convey this viewpoint to anyone?

Mr. PEYTON. Well yes, verbally, but I didn't get anyplace.

Senator HATFIELD. Who did you call concerning this?

Mr. PEYTON. Well, for a while there, there was a tremendous amount of confusion among all people who were participating, and as far as being a consultant, nobody ever asked me. They just told me. Almost anybody that would listen, I guess. In fact, on several occasions during this 20 days that the park was closed, we'd get frantic requests from people who had booked tours to come with us, like clear from Texas or clear from New York that Crater Lake was to be the high point of their visit, wanting to know if I could use any influence whereby a ranger or somebody could board a bus at the park entrance and advising that they had their own toilet and your own source of water, could they just be allowed to drive through the park, get out and take some pictures and don't touch a thing. This seemed very reasonable to me, but I was denied the request in each case.

Senator HATFIELD. Now, Mr. Peyton, this was after the fact as far as the park being closed, but at that morning, on July the 11th when you learned that the park was to be closed and you had the view that the park should not be closed, and you conveyed that view to Superintendent Sims?

Mr. PEYTON. Yes; everybody that would listen. Of course, remember——

Senator HATFIELD. And you asked him to delay this action of closing the park?

Mr. PEYTON. Yes, sir.

Senator HATFIELD. Did you ask him to rescind the order to close the park?

Mr. PEYTON. No, sir, I wasn't consulted or nothing. I was just told this was it.

Senator HATFIELD. Yes; I understand that was after the fact, but then in your call to Superintendent Sims after the park decision, after the decision had been made to close the park, did you ask Superintendent Sims to delay the action of closing the park or rescind the order of closing the park or not to close the park?

Mr. PEYTON. I had so many conversations about that time I can't honestly answer it.

Senator HATFIELD. Did you ask other people outside of the park or make requests to other people outside of the park to intervene, to not close the park, or to delay the closing of the park?

Mr. PEYTON. No, sir. Not at all.

Senator HATFIELD. You did not ask anyone else to intervene on that decision to close the park to try to stop the park from being closed or to delay the park from being closed?

Mr. PEYTON. No. I knew that we had the water problem; however, I didn't realize, I guess, that water contamination in all of the pipes and even in the fire system and even carpeting, all kitchens, dishes, everything that had ever had any contact with water, had to be decontaminated, and it was going to take a heck of a long time. It took us 2 weeks just to decontaminate our systems. But I felt that the park as such is the prime attraction. People can come up and visit the park without coming into our building, you don't have to sleep there or eat there. But it is a public park.

Senator HATFIELD. Thank you. Mr. Peyton, did you attempt to dissuade any of your employees from discussing the problems of the park at the time this was being investigated by the Public Health Service; namely, Dr. Rosenberg and Dr. Koplan's presence there and the Oregon State representatives and/or any of the other personnel who had been sent in to look over the problem?

Mr. PEYTON. No, sir. In fact, I even gave instructions to my supervisors that when any of the doctors, or anybody representing anybody officially trying to determine the problem that wanted to talk to any of our employees, that they should not accompany them. They should leave them free so that the employee can speak freely without thinking he's being coerced to say something against his will.

Senator HATFIELD. To whom did you make these instructions?

Mr. PEYTON. To our supervisors, to my supervisors. Because they all knew that it's against policy and common courtesy that they didn't know why they would be investigating, why they were being interrogating, was kind of like making an inspection. Normally, there would be a representative of the company with the person during the interrogating. But in the cases with the doctors talking to employees, my instructions were to stay away from them.

Senator HATFIELD. What about employees talking to employees, did you at any time give instructions as to whether or not employees should discuss these matters with each other or with the guests, or with other employees in other parts of the park or any other personnel?

Mr. PEYTON. Good heavens no, the only thing we did put a little quietus on and that was these kids got a little out of order at times in our diningroom, or in the cafeteria, employees pretty much eat at one end of it, and when you get 80, 90, or 100 eating at the same time, and they get to yelling stuff back and forth across the room, we thought some of it was in poor taste. Like, for example, they would say, "Hey, how's your guts this morning?" or somebody would say, "Hey, man, I had a solid stool today," or—that isn't necessary in a restaurant anyhow. But as far as trying to muzzle 180 employees, it would be impossible if you did it with a gun.

Senator HATFIELD. Mrs. Joan Borisch, did you give any instructions to remove newspapers from the newstands in the lodge that had newspapers indicating or relating there was difficulty in the park of the type that we have been discussing?

Mrs. BORISCH. Yes; I did.

Senator HATFIELD. And what was the reason for that particular action, Mrs. Borisch?

Mrs. BORISCH. I felt that the newspaper at that time was trying us unfarily in saying that it was something to do, relating it to the food. I knew, at that time, that there were people ill down at national park headquarters, and I had, in fact, been in conversation with one of the girls down there that I talk to each day, and I just felt in my own mind that it wasn't the food. They ate in their areas; we ate in our areas. We have the summer employees who eat in other areas because there are three different restaurants. They weren't all eating in the same restaurant up at the lake, so I was getting, at that point, a little tired of listening to all of the employees in the desk area, I also manage the registration desk in the lodge. Working around the desk not waiting on the desks as they come in grouping around the desk talking about their aches and pains and illnesses, and I tried to break them up and tell them that these people had work to do and please leave the area.

Senator HATFIELD. You took this action, Mrs. Borisch, strictly on your own initiative?

Mrs. BORISCH. Yes; I did.

Senator HATFIELD. Based upon your own judgment of the situation?

Mrs. BORISCH. Yes.

Senator HATFIELD. Under no instructions from Mr. Peyton or anybody?

Mrs. BORISCH. I had discussed it with him and, before I did it, I don't recall at that time what the conversation was. Things at that time were very hectic. I was working very long hours. I wasn't keeping a daily record of everything that was happening. I was having to fill in for many of my employees that were sick. So I am not sure of all of the events in the proper order and the proper dates, but I did mention it to him one time when we were eating dinner in the cafeteria, where we all happened to be at the same time at the same place. I mentioned to him that I had seen these papers and I was going to be removing them. So he was aware of it. But I did act on my own.

Senator HATFIELD. Mr. Peyton, Mrs. Peyton, any of the rest of you have additional comment or statement? Thank you very much.

I would like to call Miss Linda Larson at this time, former employee of Crater Lake Lodge.

Mr. Raymond Bartley would you join Miss Larson please at the table? Are there any other lodge employees or former lodge employees who would like to be heard? I would like to invite you to come at this time because this is the group that we are going to hear.

Miss Larson would you please spell your name slowly for the benefit of the tape at this time.

Miss LARSON. L-A-R-S-O-N.

Senator HATFIELD. And your first name?

Miss LARSON. L-I-N-D-A.

Senator HATFIELD. Would you do the same please Mr. Bartley?

Mr. BARTLEY. Bartley, B-A-R-T-L-E-Y, Raymond, R-A-Y-M-O-N-D.

Senator HATFIELD. All right Miss Linda Larson and Mr. Raymond Bartley, you were both former employees, and Miss Larson if you would begin first by——

Mr. BARTLEY. I still work with them.

Senator HATFIELD. Oh, excuse me, Mr. Bartley is a present employee and Miss Larson is a former employee. All right, if you would begin first as a former employee and tell us when you were in the employ of the Crater Lake Lodge, Inc.?

Miss LARSON. I worked from June 16 until July 9, when I quit because I was too sick to work.

Senator HATFIELD. At what time did you get sick during this period of your employment?

Miss LARSON. I became ill on the 4th of July.

Senator HATFIELD. And what type of illnes, or what were the symptoms of your illness?

Miss LARSON. Well I had a split shift that week so I went to work about, well I had breakfast at 6:30 and began work at 7 o'clock and at 7:20 I lost my breakfast so I went to my supervisor and told her that I was ill, and that was Mary Lou Phipps, or rather LouAnn Phipps who is in charge of the cafeteria serving line. And she seemed very disappointed in me because I was sick and she said "Well can't you make it through" and I was working split shift so I told her I would go back to the dorm and sleep and then come back when I was going back in the afternoon, during the dinner hour and see if I felt better then.

Senator HATFIELD. And what was your job at this time?

Miss LARSON. I served food and I worked on the serving line keeping the salads and the desserts filled.

Senator HATFIELD. And did you feel better that evening?

Miss LARSON. I felt better and so I came back and I ate my dinner. I lost my dinner before I was—my time had come to go to work so I told her and I went back to the dorm.

Senator HATFIELD. What then occurred as far as your health is concerned, after this initial attack on this particular day of July 4?

Miss LARSON. From that time on until about the 15th or 20th of July I had diarrhea.

Senator HATFIELD. Was this on a daily continual basis?

Miss LARSON. Yes; it was.

Senator HATFIELD. Were you taking medication at that time?

Miss LARSON. On the fourth?

Senator HATFIELD. No, during that period that you were experiencing the symptoms of gastrointestinal problems of diarrhea?

Miss LARSON. When I was up at the lake I was taking Pepto Bismol and it didn't seem to do any good. And I took Kaopectate, and then after I went home, I went to my own family doctor and he gave me opium and he said once or twice will do it and you'll never have it again. I was on that for 2 weeks and it finally cleared up, and I haven't had it since.

Senator HATFIELD. Was it your general feeling that during this time you were receiving help and assistance within the framework of the lodge facilities, the housemother, Miss Sexton or your supervisor or others? Were you receiving help in terms of medication or suggestions as to what you might do to feel better?

Miss LARSON. Well they just kept telling us it was the 24-hour bug and it would go away, and they provided Kaopectate until they ran out, and then they started giving them Certo, that's a fruit preservative which worked more or less the same way I guess.

Senator HATFIELD. And what was the circumstance that led to your decision to return home?

Miss LARSON. My day off was July 8, and so on July 7, I worked from 5:50 till 1 o'clock in the afternoon so I went home because I live in Medford and I made the decision that I was just going to continue working through the next week, until the 16th and then I had worked there for a month and then I was going to quit if I wasn't completely well. And so I returned to work on the 9th and it was 11 o'clock in the cafeteria and I was standing in the parking lot talking to my mother and I observed one of the cafeteria workers go outside and post that first notice that you've been speaking of, he posted it outside with a tack. And then we saw a Park Ranger drive up and he put one in the lot glass case and he tacked down the other sign better so that it wouldn't blow away, and I went in, talked to my supervisor and she informed me that I was not to return to work until I didn't have diarrhea anymore.

She said the Park Service was making them do this now, and so I made the decision at that point to quit. So I had a little lunch. I had something to drink. At that time I observed that there was another one of these notices above the cash register at the end of the caf line, and I noticed Mr. Buck take down the sign, and then I walked outside the cafeteria and saw Mrs. Peyton remove the sign outside the cafeteria. I couldn't figure it out myself why they were taking down these warning signs. So I saw a Park Ranger driving by and I waved to him and asked him about it and he asked me if it was Mrs. Peyton's people that was taking down the signs and I told him "Yes", and he said well he had just finished talking to them and that Mrs. Peyton had informed him that it was OK because the Public Health Service had told her that there wasn't enough chlorination in the water, and that it was OK. She also informed him that they had a different water supply at the rim than they did at the park headquarters, which they don't. It's the same system. And he con-

tinued on trying to convince me that it wasn't the water because he said his roommate had gotten home the weekend before and his little boy had become ill, and he'd never been at the park at all. Just got it apparently through the air from this other ranger.

Senator HATFIELD. Miss Larson, had you ever been instructed to appear for work while you were still ill with symptoms of diarreah and vomiting?

Miss LARSON. I don't believe it was a forced thing. I think more they played on your sympathies. They wanted you to feel sorry for them because they were short handed and they really needed us, and so it was more or less they just tried to convince you that it was OK for you to do it. You weren't doing any harm in working while you were sick.

Senator HATFIELD. There was no threat to you at any time that you were being dismissed from your employment, if you failed to showup for work because you were ill?

Miss LARSON. No.

Senator HATFIELD. Were you aware that such threats were made to any other of your colleagues in the employees groups?

Miss LARSON. No; I was not.

Senator HATFIELD. You never overheard any instructions or statements made by any supervisory personnel to any of the other employees that they might be dismissed if they did not show up to work even though they were ill?

Miss LARSON. No; I did not.

Senator HATFIELD. Miss Larson, did you at any time handle the food and perform your assigned duties while other than under the symptoms that you have just outlined to me; were there any other occasions. or other symptoms that you had of illness at a time that you were working in the food?

Miss LARSON. No; just the diarrhea.

Senator HATFIELD. All right, I'll turn to Mr. Bartley at this time, if you will remain, Miss Larson, at the table until—now Mr. Bartley, you are an employee of the crater.

Mr. BARTLEY. Yes.

Senator HATFIELD. Lake Lodge?

Mr. BARTLEY. Yes.

Senator HATFIELD. And what is your employment?

Mr. BARTLEY. I am a grocery store clerk or I used to be a clerk in the Wine Glass.

Senator HATFIELD. Would you pull that a little bit closer. Now would you state again what your job is?

Mr. BARTLEY. A grocery store clerk but before I was a clerk up in the Wine Glass, the restaurant.

Senator HATFIELD. Would you relate please the experience of health conditions of your health during the time of the outbreak of these gastrointestinal symptoms?

Mr. BARTLEY. I was one of the last people to become sick. I didn't become sick until July 7. I am also one of the two cases that Ed mentioned even though there may be more who was the first to work. I'm the person with the birthday. It was my 25th birthday on July 6. As you might expect I went out and I got extremely drunk and I also got extremely sick. I had the dry heaves and in 3 or 4 hours I just had

nothing left in my stomach. I went to bed at 4 o'clock in the morning completely exhausted, not feeling too bad. I woke up at 6 in the morning with extreme cramps and also I realized that I felt like I had to vomit and so I jumped out of bed and started throwing up. At that same time I also realized that I had diarrhea extremely bad and, well, I grabbed a garbage can and for that next hour I was sitting there having diarrhea and vomiting.

OK. I did that for about an hour and then I went to bed and then off and on every 10 or 15 minutes I'd have to get up with cramps constantly and the diarrhea and all. I didn't have to return to work until 1 that morning, or until 1 that afternoon. I called up Ed, my manager, or supervisor, and I said "Ed"—this had to be about 10, no, it had to be about 11:30—I said "Ed, I am really sick. I can't work." He said "My ass, you've got a hangover; would you get to work right now." And I said, "Ed, I am really sick, you just don't understand, I am really sick." He said, "If you don't come to work now don't come to work at all."

And at that point I wasn't really ready to argue. I said, "OK, I'll come." And I went to work at 1 o'clock. And it became obvious, it became very apparent to everyone that worked there that I was very sick. I had to leave every 2 minutes to go to the bathroom and throw up. I had been out and had a hangover. After I thought it had become extremely apparent to Ed that I was sick I asked Ed, "I am very sick." I said, "Will you let me go? Can't you tell that I am sick?" And he says, "Yeah, I can tell you're sick." I said, "Well let me go, I can't work. I had the late shift. I also had to clean the grills, quite a bit of manual labor there. And he said, "Well, no, I am not going to let you go." I said, "Why?" He said, "Well, the reason you're sick is because you went out last night and were drinking, and that lowered your resistance and that's why you got sick."

I said, "Sure, anytime anyone goes out and goes drinking your going to be lowering your resistance but they don't know they are going to get sick the next day." And I said, "That's like if someone asked you to go out drinking and I said 'No, because I know if I go out drinking I'll get sick the next day.' I am going to lower my resistance just enough." And I don't remember his comment after that and I obviously wasn't very impressed and I know, and I had to stay. Like I said I was one of the last people to get sick there and I also worked earlier for one of the other people that got sick in the middle of the shift and I had to work late. He offered, Ed, I asked him if he would work for me and he said no, that I had to work. I would like to add that this was done without the knowledge of any of the people, Mr. and Mrs. Peyton, or Ryan or Joan or any. There were also two people up in the Wine Glass who swear that they were forced to work, directly from Ed. They are not here right now. One of them works up there now, can't come up but he said that he would be willing to. Another person said, who is not working here, said that she was also forced to work.

Senator HATFIELD. As a matter of information, the record will be held open until October 1 so that it is possible to submit any testimony that anyone wishes to make on this general subject of the hearing in writing and it will be inserted in the record. If you have any friends or others who wish to be heard on this subject and who are not here

and cannot be here then they are certainly privileged to offer their statements in writing and it will be included in the record.

Was your particular case popular knowledge around in the dormitories and other complexes where employees of the lodge worked and ate and slept?

Mr. BARTLEY. I would say so. At that time I was living in the lodge. I was separated pretty well from most people who worked in the dorms, or who lived in the dorms, excuse me, but sooner or later everybody who came through there who was working at the Wine Glass then, all the people that I worked with on all shifts and all my friends knew that I had to work then. I would also like—this is an isolated incident, as far as I know this the only time anyone was ever forced to work.

Senator HATFIELD. But those two other people who I understood you to say were forced to work when they were ill.

Mr. BARTLEY. They told me to tell them.

Senator HATFIELD. They told you that. This occurred after your experience? Or before?

Mr. BARTLEY. I am not really sure, I am not really sure.

Senator HATFIELD. Do you know whether or not, when you were ill and you were told by Mr. Edwards to appear for work that this was something that was commonly practiced?

Mr. BARTLEY. No, I didn't understand it at all. It was the first time I ever knew anything like this happening.

Senator HATFIELD. So its more conceivable then that these other two people who were forced to work while they were ill happened after your case, if you had not heard about such a——

Mr. BARTLEY. No, well I have completely different shifts and I could have been totally unaware of its happening. We have also 13 people who work up there or 12.

Senator HATFIELD. All right, thank you very much. Do you have something further?

Mr. BARTLEY. Yeah there are some things I have just been writing down a little bit. You've been continually asking of these other people who have been up here why people worked when they were sick, and also why the allegations came about. And I think I know the answer. I worked there for 3 years. And during that time I was 18, 19, and 21, I skipped a year last year I didn't work last year. So I observed most of the people and gone through, seeing the same reactions, seeing the reactions to certain kinds of conditions, the same kinds of conditions they experience every year. First of all I want to talk about why people are working when they were ill.

For the first reason, and this is what everyone talked about all the time, the employees. First of all they don't want to lose pay. Now you can say that but not really understand how really serious that is. Because, well the girls were working 6 hours and 40 minutes and were making $1.75 an hour. For 40 hours a week, that works out to $75 a week, or $70 a week, excuse me. And in a month that is $280. They also pay $150 room and board, that is taken out of that. so actually you take x amount of money out of that, you're left with $130 the whole month, and even college students who are supposedly working to go to college and its sort of hard to do. So it becomes extremely

serious when you don't work. One day's pay just becomes a very serious thing. Second, there is also a question of loyalty to the company. It's sort of hard to understand with all these people talking, you know, being with the company but there is a lot of loyalty toward the company.

When you are up there you're a separate little community with 180 people, about 120 girls, 60 boys, and you can't help but work there for 3 months, work without feeling some sort of love for the company. Further, it sort of goes along with that, is your loyalty to other people that work there. You know that if you don't go to work, now after my experience it was either the day after or the next day after that we were told that anyone who was sick shouldn't work. We weren't told that we couldn't work we were told that if you are sick that we couldn't that we weren't supposed to, we weren't supposed to work. But everybody up in the Wine Glass knows that if, like there is only four clerks that if someone doesn't work that places an incredible burden on the other people. Now two people that don't work, if two people don't work then that's an even greater burden, and we, whether it was right or not, but the way we felt then, we all decided like that as long as no one was vomiting we would all go to work.

And I guess that's pretty much the way it was across the rest of the company that it would place too great a burden on the other people. OK I would like to talk about the reason why there is the allegations, why all the allegations were made. And to begin with there is an incredible amount of resentment against the management people up at Crater Lake. I am sure there is no one person you can't—whether this be right or wrong, there isn't one person you can't pick out of a crowd, all the employees who worked there, and ask them, and they could talk for 15 minutes for all the reasons they don't like to work there. They resent the food. I don't personally mind the food, but most people hate the food. Second, they resent the pay. They are going up there trying to earn money to go to college and they are not making enough, they resent that.

And most important of all they resent the boy-girl situation. Boys are not allowed in girls' dorms, and girls are not allowed in boys' dorms. That's the way it is. Most colleges aren't even like that anymore, and that becomes, at 18 or 19, that's when you're up there with 120 girls, girls become your main recreation. And so when you're told and especially when you consider that most of the time we've been having pretty bad weather, we've only had about a month of good weather out of the 3 months, and you really resent being told that you can't even, during any time of the day, be caught up there. And as far as the food, pay, and boy-girl issues those are pretty important at that age and so there is an incredible amount of resentment. When I left here I was told, a lot of people were just sort of standing outside and saying: All right Ray go get 'em, nail them against the wall Ray. And that's not the sort of unbiased opinion that people are just looking to find the facts, and I can certainly, under those kinds of conditions and know of people who would, like the situation we had, like the five out of six interviewed at an earlier hearing, already told their supervisors that they were well, when someone comes up and asks them telling them that they are sick. That's the sort of resentment, right or wrong, it's

present up there, and I think that's a large part of where the allegations start.

Senator HATFIELD. Are you saying that allegations without foundation would be made in order to get revenge?

Mr. BARTLEY. As a matter of fact they really don't think about it. So much pressure builds up that they are out to get someone and this became a very convenient thing. As far as I know, other than my own case, none of the other supervisors, and it was always made perfectly clear that now if your feeling sorry for yourself believe that you have to work, that your going to get fired, truly they want you to work, but I mean like if your sick you can't work. And it would be very easy for people to, they have their own feelings that this is what happened. Because, like I have never heard it told anyway that they had to work.

Senator HATFIELD. Miss Larson, would you care to comment on any of the comments that Mr. Bartley has made?

Miss LARSON. I think his statements are fairly accurate.

Senator HATFIELD. You think that it's possible that some of these allegations were made not on the basis of fact, but on the basis of attempts to get revenge because of the working conditions and other matters that Mr. Bartley has referred to them?

Miss LARSON. Not necessarily I think those conditions that he did mention are existent, but I don't think that necessarily caused allegations to be caused.

Senator HATFIELD. You have facts to substantiate any of the allegations that have been made concerning the enforcement of work at the time the people were ill and not capable of working?

Miss LARSON. I don't understand the question.

Senator HATFIELD. You have no facts to support those allegations?

Miss LARSON. That people were forced to work?

Senator HATFIELD. Yes.

Miss LARSON. No, I didn't see anybody forced to work.

Senator HATFIELD. All right, thank you very much.

[Subsequent to the hearing the following was submitted by Miss Larson:]

MEDFORD, OREG., *September 9, 1975.*

Senator MARK HATFIELD,
Senate Office Building,
Washington, D.C.

DEAR MR. HATFIELD: I hope your committee will have sufficient evidence collected by October 1 to determine who or what caused the delay in closing Crater Lake National Park so that such an incidence can be avoided in the future. Because of the great length of the hearing, I did not feel it was necessary for me to include a timetable of events as others had done when I testified. However, I feel that such a schedule might be helpful in your investigation, so I am including it so it might be added to the testimony previously given.

June 16.—I arrived and began working at Crater Lake.

June 23.—I went home for my day off and had a touch of diarrhea.

July 1.—When I awoke it was difficult to walk down the hall in the dorm because so many girls were sleeping in the hall alongside their own vomit. I proceeded to the restroom where Mrs. Peyton and the housemother, Julie Sexton were scrubbing out the sinks in which others had vomited. Apparently all the maids were too sick to work that day.

July 2 or 3.—I don't exactly recall which day it was, but while I was working front, the head cook reportedly vomited in a casserole which was then thrown out. He went back to his room for a few hours and then returned to

work that afternoon. Although I never witnessed the pail by the stove as Dr. Mark Rosenberg reported, we were aware that the cook was ill while preparing food. Perhaps that was a contributing factor in student workers who continued to work while ill; we felt that since an adult supervisor was working while ill our continuance certainly wouldn't be any different.

July 4.—I became ill myself. I was asked to continue working after I informed my supervisor, Miss Lou Ann Phipps, that I had just thrown up my breakfast. I refused to continue working on that day.

July 9.—I returned from my day off and was told that I couldn't work until I no longer had any diarrhea or other signs of the illness. Lou Ann told me that the Public Health Service had told her this. I feel that perhaps the seriousness of this order was not brought out at the hearing. Not only did it cost $5 per day for room and board ($150/month), whether we were ill or absent or not, but if we quit we would lose the $50 deposit we gave at the beginning of the season. Thus, after an entire month of working, one might come home with a mere $80.

July 10.—My mother obtained Parepectolin, which contains some opium, from the pharmacy. While it did not require a prescription, she was required to sign for it.

July 11.—I received a gamma globulin injection from my family physician.

July 12.—My legs were cramping, extremely painful, and very swollen.

July 13.—I was running a fever. I went to the doctor who gave me a prescription for tincture of opium and told me to drink salt water for the leg cramps. Apparently the continual diarrhea had drained my body of necessary salt.

I continued taking the opium for two weeks at least once a day except for one day in that period. During the last week of this time, July 19, I took a penicillin derivative, Amoxicillin. Three days after completing that prescription, I developed an alergic reaction to the penicillin.

I feel that the illness rates that Mr. Peyton presented were very misleading. First of all, with a little more work he could have determined which were continuing illnesses and which were new cases, thus obtaining a fairly accurate attack rate for the nearly 180 workers. Not only were those who were on their days off and those who continued working while ill not included in his figures, but those who quit because they were too ill to continue were omitted.

Something else that I feel is of significance concerns the health inspections of the kitchen and cafeteria areas. There was always an advance warning when any inspector came. During this time we had to "clean things up" so they could pass inspection. Such a procedure included such things as covering the butter for rolls, putting the tartar sauce for fish on ice, and cleaning out shelves which were normally very dirty. Thirdly, at the time Crater Lake was closed it was recommended that all those who were ill from Crater Lake remain out of the kitchen for a period of two weeks. This put a further burden on other members of the family who had to wait on us even to get a glass of water.

Lastly, this illness weakened me physically so that I would have been unable to hold down any type of job until about the 15th of August. Since it is nearly impossible to obtain a job for a one month period. I have remained out of work since July 9.

I sincerely hope that everyone involved can profit from this unfortunate incident, and that it will never have to happen again.

Sincerely yours,

LINDA LARSON.

Senator HATFIELD. I would like to call at this time Marion Jack.

STATEMENT OF MARION JACK, SCHOOLTEACHER, MEDFORD, OREG.

Mr. JACK. My name is Marion Jack. I am a schoolteacher here in the Medford school system. I have worked here for 16 years. I am also seasonal supervisory ranger or park technician as its called now at Crater Lake National Park where I worked for the past 13 summers I think, in part, I would like to reply to the allegations that the Park Service tried to stifle or cover up anything in any respect. I have seven patrol rangers working under me. My duties mainly are concerned with law enforcement within the park, front and back country patrol. And

to my knowledge there has never, or it never was at any time any attempt by anyone to intimidate or to cover up any of the information which was brought out concerning the conditions of the water. I think the main feeling that most of us had at the time was that we were all very ill. The word was that we got was just the flu. Most of us, at least a number of us had worked there prior and had had that type of flu several times over 10 seasons and this, the second time around it became pretty evident that this wasn't just the flu.

The problems we had was in getting wheels in motion to do anything about it, and I think this is where Mr. Stubblefield came in and I personally thanked him after it was brought out that he had taken the water samples to Klamath Falls and I told him that I am glad that someone finally got something going, even if its wrong, its something. And regardless. My own feelings I can't speak for the other people who worked with me, but my own feelings were that just the initial movement to start was lacking, and I don't think that was anyone's fault particularly, I can't say but I communicated with my supervisor, Bob Ellis. I communicated with Jim Wiggins who is his supervisor. I know the word was being passed but apparently nothing was being done. But as far as the cover up goes there was never, definitely to my knowledge, no cover up attempt.

Senator HATFIELD. Thank you very much, I appreciate your coming to testify here, Mr. Jack its been very helpful.

Mr. Edwin H. Mann.

Mr. Mann its been a goodly number of years since you and I have sat at the same table in a political setting like this.

Mr. MANN. Opposite one another.

Senator HATFIELD. Always on the same party side of the table.

Mr. MANN. Not necessarily the same philosophy.

Senator HATFIELD. I am very grateful to you for your appearance here and I welcome you.

Mr. MANN. Thank you.

Senator HATFIELD. I believe you have indicated to me before on the telephone that you would like to share your visitation experience to the park and the aftermath of that visit and I am ready now to have you report that to the record and you present it in your own way.

Mr. MANN. On July 5th Mrs. Mann, my wife, and Mrs. Mauldin visited the park. While we were there we went to the restaurant and we had food and we had something to drink. Mrs. Mann had coffee, Mrs. Mauldin had tea, iced tea, it was a warm day and I had water. We all were sick after that experience there. We had food too.

Senator HATFIELD. Mrs. Mauldin is spelled. How do you spell her name for the record?

Mr. MANN. M-A-U-L-D-I-N.

Senator HATFIELD. Thank you.

Mr. MANN. And——

Senator HATFIELD. What day did you become ill following your visit there, the next day?

Mr. MANN. No; it was a day or so afterwards. that the dysenteries, I had a severe case of dysentery. And the, I didn't do anything to it only just to try, it kept getting worse and I had cramps and I had a real bad time. On the 11th day of July I went to the doctor and I had not been given any information that there was a health condition amongst the employees up there, that there was a sick condition or

I knew nothing about the condition there at Crater Lake and had not been informed in any way to the condition that existed at that time at Crater Lake. The doctor took care of me for, off and on, till I kept getting worse, and he finally put me in the hospital, and I was in the hospital for 13 days, sick with the diarrhea and dystenteries and cramps in my stomach and finally I was discharged from the hospital. The result of that was that I had a medical bill of close to $3,000, and I lost my time in my business I have a business that I operate at the present time, and I lost my business and time and I had to employ extra help. And I feel that the public or the people that patronized the park were not informed properly so that they knew what the condition was amongst the employees in the park.

Senator HATFIELD. How long was Mrs. Mann ill?

Mr. MANN. Mrs. Mann, she was ill oh for about a week. She had dysenteries and trouble with it.

Senator HATFIELD. Did a doctor examine Mrs. Mann?

Mr. MANN. No the doctor didn't examine Mrs. Mann. She stayed at home.

Senator HATFIELD. Did the doctor give you the diagnosis of your malady?

Mr. MANN. Well he, there wasn't any diagnosis to it because all I had was dysenteries and cramps and the nurses in the hospital were following me around trying to take care of my childish tricks.

Senator HATFIELD. And Mrs. Mauldin, how long was she ill?

Mr. MANN. She was in the hospital about 16 days.

Senator HATFIELD. Oh, she was also——

Mr. MANN. Went to the hospital.

Senator HATFIELD. I see. Did you then become aware at what time following the illness that you had, did you become aware of the problems in the park?

Mr. MANN. Well when I became aware of it I received a letter from the park service and it was dated July 11 and they explained to me at that time that there was a condition, in the letter, I have a copy of it. I have the letter right here that they suggested that I see a doctor.

Senator HATFIELD. Was this as a result of your signing a register in the park or how did they——

Mr. MANN. I don't know how the result came but anyway I received this letter and I have it here and I also have the hospital bills and the medical bills and the things that are all connected with the——

Senator HATFIELD. Would you be willing to let us—are these copies or the originals?

Mr. MANN. There's a—I think they are all copies.

Senator HATFIELD. Would you permit us to have those for our records?

Mr. MANN. Yes; I wouldn't object at all.

Senator HATFIELD. We can return them to you if you want them returned.

Mr. MANN. I would like to have them returned.

Senator HATFIELD. All right, if you will let us then have these we will place them in the record and then return them to you. Thank you very much for coming and for being so patient, for waiting all day long.

Mr. MANN. Well, I felt that I should do this in behalf of the public.

Senator HATFIELD. Well, I am grateful and I appreciate it too. I forgot to ask you your age when you came here to testify this evening.

Mr. MANN. I was born August 8, 1888. I don't know that's the 8th month, the 8th day in 1881, I don't know whether it was 8 o'clock in the morning or 8 o'clock at night.

Senator HATFIELD. Thank you very much, you are 87 years young.

[The information referred to by Mr. Mann follows:]

U.S. DEPARTMENT OF THE INTERIOR,
NATIONAL PARK SERVICE,
Crater Lake, Oreg., July 11, 1975.

DEAR PARK VISITOR: On July 11 it was discovered that the water in Crater Lake National Park was contaminated with sewage. Persons who consumed water or food prepared in the park from June 10 to July 11 may develop gastroeneritis, with nausea, vomiting, cramps and diarrhea. This is a self-limited disease and most ill persons should get better by themselves. It is important that ill persons wash their hands very carefully after defecating and before eating, and that they avoid handling food to be consumed by other persons. Ill persons should also drink adequate amounts of liquids, including juices, to avoid dehydration. Persons with persistent illness should consult their physician.

There is also a small chance that persons who consumed this water may develop hepatitis. For this reason all exposed persons should consult their physician, or their local health department, to receive gamma globulin injections. We would like any exposed persons who do develop hepatitis to notify their state health department and the Center for Disease Control in Atlanta. Letters should be sent to Dr. Mark L. Rosenberg, Center for Disease Control, Atlanta, Georgia, 30333.

Thank you for your cooperation.

Sincerely yours,

RICHARD H. SIMS,
Superintendent.

PHONE (503) 779-8367
IRS #93-6077200

Richard J. Hebert, M.D.
PHYSICIAN AND SURGEON
SUITE 224
691 MURPHY ROAD MEDFORD, OREGON 97501

Mrs. Edwin H. Mann
47 Rose Avenue
Medford, Oregon 97501

PATIENT: Louise M.

DATE	SERVICE	CRVS #	DEBIT	CREDIT	BALANCE
10-31-74	Consult for Dr. Six	90620	45.00		45.00
11-12-74	h/c	90260	12.00		57.00
11-13-74	h/c	90260	12.00		69.00
01-07-75	EI call		15.00		
	EKG - reading	93010	10.00		94.00
01-14-75	o/c	90060	10.00		104.00
[illegible]	[illegible]			104.00	-0-
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]		8.00	2.00
05-29-75	RVPS				
06-27-75	RVPS				
07-11-75	**o/c**	**90060**	**11.00**		**13.00**
07-22-75	Medicare Billed				

INSURANCE Medicare 544-36-5019-B RVPS
EMPLOYER
DIAGNOSIS [illegible]
PHONE NO 772-9325 BIRTHDATE 05-1-90

PRACTICE LIMITED TO
GASTROENTEROLOGY

PHONE (503) 779-8367
IRS #93-6077200

Richard J. Hebert, M.D.
PHYSICIAN AND SURGEON
SUITE 224
691 MURPHY ROAD MEDFORD, OREGON 97501

Mr. Edwin H. Mann
47 Rose
Medford, Oregon 97501

PATIENT

DATE	SERVICE @ Providence	CPT-4 #	DEBIT	CREDIT	BALANCE
11-26-74	Consult for Dr. Dysart	90620	25.00		25.00
07-10-75	Paid, ck 2004			25.00	-0-
07-11-75	o/c	90060	11.00		11.00
07-16-75	Admit	90220	50.00		61.00
07-17-75	h/c	90260	13.00		74.00
07-18-75	h/c	90260	13.00		87.00
07-19-75	h/c	90260	13.00		100.00
07-20-75	h/c	90260	13.00		113.00
07-21-75	h/c	90260	13.00		126.00
07-22-75	h/c	90260	13.00		139.00
07-23-75	h/c - discharge	90260	13.00		152.00
07-25-75	Admit	90270	15.00		167.00
07-26-75	h/c	90260	13.00		180.00
07-27-75	h/c	90260	13.00		193.00
07-28-75	h/c	90260	13.00		206.00
07-29-75	h/c	90260	13.00		219.00
07-30-75	h/c	90260	13.00		232.00
07-31-75	h/c - discharge	90260	13.00		245.00

INSURANCE Medicare 544-36-5079-1 RVPS
EMPLOYER owner - E. H. Mann Company
DIAGNOSIS
PHONE NO 772-9525 BIRTHDATE 08-18-88
Wife: Louise M.

PATIENT NAME

STATEMENT

THE MEDFORD RADIOLOGICAL GROUP
842 EAST MAIN STREET • 691 MURPHY ROAD
MEDFORD, OREGON 97501
IRS No 93 0462427

MAILING ADDRESS
P O BOX 1747
PHONE 779-5041

E L LAWSON M D
A S MARKEE M D
R H SAUL M D
D A TURCKE M D
P E SACKS M D
E J DOYLE M D
J J PTACEK M D
G T GILMORE M D

DETACH THIS PORTION AND MAIL BACK WITH YOUR REMITTANCE

DATE	DESCRIPTION	CODE NO	CHARGE	WHERE SERVICE PERFORMED	CODE	CODE	CREDITS	BALA

LOCATION OF PROFESSIONAL SERVICES

EXPLANATION OF CODES

1 ROGUE VALLEY MEMORIAL HOSPITAL
2 PROVIDENCE HOSPITAL
3 ASHLAND COMMUNITY HOSPITAL
4 EAST MAIN OFFICE
5 ROGUE VALLEY OFFICE
6. OTHER
7 THERAPY
8 NUCLEAR MEDICINE
IH INPATIENT
OH OUTPATIENT

PAY T
AMOU
MAKE CHECK
TO THE ME
RADIOLOGICA

FORM 400 (10M)
GPC 6/75

PHONE

APPOINTMENT AND MEDICAL CALLS 773-6251

BUSINESS OFFICE CALLS ONLY 779 5041

PATIENT NAME

MAILING ADDRESS
P O BOX 1747
PHONE 779-5041

STATEMENT

THE MEDFORD RADIOLOGICAL GROUP
642 EAST MAIN STREET • 691 MURPHY ROAD
MEDFORD, OREGON 97501
IRS No 93-0462427

E L LAWSON M D
A S MARKEE M D
R H SAUL M D
D A TURCKE M D
P E SACKS M D
E J DOYLE M D
J J PTACEK, M D
G T GILMORE, M D

DETACH THIS PORTION AND MAIL BACK WITH YOUR REMITTANCE

DATE	DESCRIPTION	CODE NO	CHARGE	WHERE SERVICE PERFORMED	CODE	CODE	CREDITS	BALANCE
[illegible]	COLON	[illegible]	[illegible]	[illegible]				
		[illegible]	[illegible]	[illegible]				[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]

LOCATION OF PROFESSIONAL SERVICES

EXPLANATION OF CODES

1 ROGUE VALLEY MEMORIAL HOSPITAL
2 PROVIDENCE HOSPITAL
3 ASHLAND COMMUNITY HOSPITAL
4 EAST MAIN OFFICE
5 ROGUE VALLEY OFFICE
6. OTHER
7 THERAPY
8 NUCLEAR MEDICINE
IH INPATIENT
OH OUTPATIENT

PAY THIS AMOUNT

MAKE CHECK PAYABLE TO THE MEDFORD RADIOLOGICAL GROUP

FORM 400 (10M)
GPC 6-75

PHONE

APPOINTMENT AND MEDICAL CALLS 773-6251

BUSINESS OFFICE CALLS ONLY 779-5041

PROVIDENCE HOSPITAL

1111 Crater Lake Avenue • Medford, Oregon 97501
Phone 773 6611

PLEASE WRITE PATIENT NUMBER ON ALL CORRESPONDENCE & PAYMENTS

PATIENT	PATIENT NUMBER	HOSPITAL CASE NO	ADMISSION DATE	ADMISSION TIME	DISCHARGE DATE	DISCHARGE TIME
MANN EDWIN H	700276365		07-25-75	00:00	07-31-75	11:00

BILL TO	POLICYHOLDER S NAME	POLICYHOLDER S COMPANY
MANN EDWIN H 47 ROSE ST MEDFORD OR 97501		

RELATION TO POLICYHOLDER	AGE	BIRTHDATE
	086	08-18-88

ATTENDING DOCTOR	SERV.CD	SOCIAL SECURITY NUMBER	ADMITTING DIAGNOSIS
HEBERT RICHARD	09	544-36-5019	

FINAL DIAGNOSIS

*

SURGICAL PROCEDURES

DATE	EXPLANATION OF CHARGE OR CREDIT		ITEM CODE	TOTAL CHARGES LESS CREDITS & CASH	ESTIMATED INSURANCE -022	PATIENT'S AMOUNT
07 25	ROOM AND BOARD	P	0204	8300	8300	00
07 26	ROOM AND BOARD	P	0204	8300	8300	00
07 27	ROOM AND BOARD	P	0204	8300	8300	00
07 28	ROOM AND BOARD	P	0204	8300	8300	00
07 29	ROOM AND BOARD	P	0310	8300	8300	00
07 30	ROOM AND BOARD	P	0310	8300	8300	00
	ROOM AND BOARD			49800*	49800*	00*
07 28	ENEMA BUCKET		0109	210	210	00
	CENTRAL SUPPLY			210*	210*	00*
07 29	GENERAL I V		1605	5005	5005	00
	I.V. THERAPY			5005*	5005*	00*
07 25	BASIC ER		2301	1400	1400	00
	E/R USE AND SUPPLIES			1400*	1400*	00*
07 29	IVP ROUTINE	74400	0801	6875	6875	00
	RADIOLOGY			6875*	6875*	00*
07 31	MEDICATIONS		0900	4400	4400	00
	PHARMACY - INHOUSE			4400*	4400*	00*
07 27	ROUTINE CULTURE EXCEPT F		0202	1210	1210	00
07 27	SENSITIVITY PER ORGANISM		0203	1210	1210	00
07 26	CHLORIDE		0312	840	840	00
07 26	SODIUM AND POTASSIUM		0351	920	920	00
07 26	CBC-COMPLETE BLOOD COUNT		0601	1045	1045	00

DATE POSTED NOT NECESSARILY DATE OF SERVICE

IRS FEDERAL NUMBER 93 0386912 STATE I D NUMBER 038941 2	TOTALS					
	DEDUCTIONS					
PAGE NO	PAYMENTS					
	BALANCED					

PROVIDENCE HOSPITAL

1111 Crater Lake Avenue • Medford, Oregon 97501
Phone 773-6611

PLEASE WRITE PATIENT NUMBER ON ALL CORRESPONDENCE & PAYMENTS

PATIENT	PATIENT NUMBER	HOSPITAL CASE NO	ADMISSION DATE / TIME	DISCHARGE DATE / TIME
MANN EDWIN H	700276365		07-25-75 00:00	07-31-75 11:00

BILL TO	POLICYHOLDER'S NAME	POLICYHOLDER'S COMPANY
MANN EDWIN H 47 ROSE ST MEDFORD OR 97501	RELATION TO POLICYHOLDER: AGE: 086 BIRTHDATE: 08-18-88	

ATTENDING DOCTOR	SERV CD	SOCIAL SECURITY NUMBER	ADMITTING DIAGNOSIS
HEBERT RICHARD	09	544-36-5019	

FINAL DIAGNOSIS: *

SURGICAL PROCEDURES:

DATE	EXPLANATION OF CHARGE OR CREDIT	ITEM CODE	TOTAL CHARGES LESS CREDITS & CASH	ESTIMATED INSURANCE 022			PATIENT'S AMOUNT
07 27	URINALYSIS	1232	495	495			00
	LABORATORY		5720*	5720*			00*
	** SUBTOTAL LESS RM/BD**		23610	23610	00	00	00

DATE POSTED NOT NECESSARILY DATE OF SERVICE

IRS FEDERAL NUMBER 93 0386912 STATE I.D. NUMBER 038941 2	TOTALS	73410	73410			00
	DEDUCTIONS					00
PAGE NO 002	PAYMENTS					00
F201	BALANCED	73410	73410			00

PROVIDENCE HOSPITAL

1111 Crater Lake Avenue • Medford, Oregon 97501
Phone 773-6611

PLEASE WRITE PATIENT NUMBER ON ALL CORRESPONDENCE & PAYMENTS

PATIENT	PATIENT NUMBER	HOSPITAL CASE NO	ADMISSION DATE	ADMISSION TIME	DISCHARGE DATE	DISCHARGE TIME
MANN EDWIN H	700262735		07-16-75	15:55	07-23-75	11:45

BILL TO	POLICYHOLDER S NAME	POLICYHOLDER S COMPANY
MANN EDWIN H 47 ROSE ST MEDFORD OR 97501	RELATION TO POLICYHOLDER: 006 (AGE) 08-18-88 (BIRTHDATE)	

ATTENDING DOCTOR	SERV CD	SOCIAL SECURITY NUMBER	ADMITTING DIAGNOSIS
HEBERT RICHARD	09	544-36-5019	

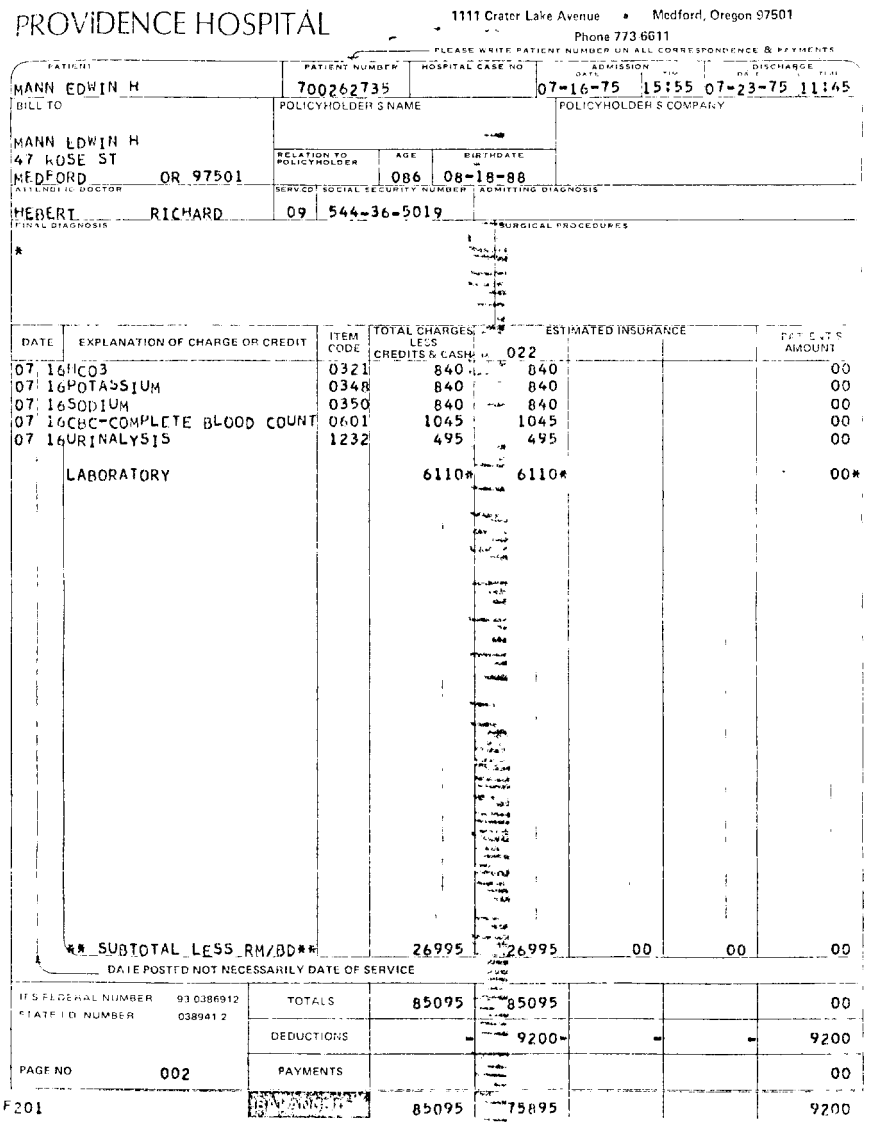
FINAL DIAGNOSIS: *

SURGICAL PROCEDURES:

DATE	EXPLANATION OF CHARGE OR CREDIT	ITEM CODE	TOTAL CHARGES LESS CREDITS & CASH	ESTIMATED INSURANCE 022			PATIENT S AMOUNT
07 16	ROOM AND BOARD P	0105	8300	8300			00
07 17	ROOM AND BOARD P	0105	8300	8300			00
07 18	ROOM AND BOARD P	0105	8300	8300			00
07 19	ROOM AND BOARD P	0105	8300	8300			00
07 20	ROOM AND BOARD P	0105	8300	8300			00
07 21	ROOM AND BOARD P	0105	8300	8300			00
07 22	ROOM AND BOARD P	0105	8300	8300			00
	ROOM AND BOARD		58100*	58100*			00*
07 22	TRI PADS 4/ROLL	0121	150	150			00
07 19	TRI PADS 4/ROLL	0121	150	150			00
07 18	TRI PADS 4/ROLL	0121	150	150			00
07 17	TRI PADS 4/ROLL	0121	150	150			00
07 16	TRI PADS 4/ROLL	0121	150	150			00
07 21	SLIPPERS	0124	200	200			00
	CENTRAL SUPPLY		950*	950*			00*
07 21	GENERAL I V	1605	7865	7865			00
	I.V. THERAPY		7865*	7865*			00*
07 22	STOM + SMALL BOWEL 74245	0704	4675	4675			00
07 19	COLON-ROUTINE 74270	0706	3850	3850			00
	RADIOLOGY		8525*	8525*			00*
07 23	MEDICATIONS	0900	3545	3545			00
	PHARMACY - INHOUSE		3545*	3545*			00*
07 20	ROUTINE CULTURE EXCEPT F	0202	1210	1210			00
07 16	CHLORIDE	0312	840	840			00

DATE POSTED NOT NECESSARILY DATE OF SERVICE

IRS FEDERAL NUMBER 93 0386912 STATE I.D. NUMBER 038941 2 PAGE NO	TOTALS					
	DEDUCTIONS					
	PAYMENTS					
	BALANCE DUE					



PROVIDENCE HOSPITAL

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Phone 773 6611

PLEASE WRITE PATIENT NUMBER ON ALL CORRESPONDENCE & PAYMENTS

PATIENT	PATIENT NUMBER	HOSPITAL CASE NO	ADMISSION DATE TIME	DISCHARGE DATE TIME
MANN EDWIN H	700262735		07-16-75 15:55	07-23-75 11:45

BILL TO	POLICYHOLDER'S NAME	POLICYHOLDER'S COMPANY
MANN EDWIN H 47 ROSE ST MEDFORD OR 97501	RELATION TO POLICYHOLDER: AGE 086 BIRTHDATE 08-18-88	

ATTENDING DOCTOR	SERVICE	SOCIAL SECURITY NUMBER	ADMITTING DIAGNOSIS
HEBERT RICHARD	09	544-36-5019	

FINAL DIAGNOSIS: *

SURGICAL PROCEDURES

DATE	EXPLANATION OF CHARGE OR CREDIT	ITEM CODE	TOTAL CHARGES LESS CREDITS & CASH	ESTIMATED INSURANCE 022			PATIENTS AMOUNT
07 16	HCO3	0321	840	840			00
07 16	POTASSIUM	0348	840	840			00
07 16	SODIUM	0350	840	840			00
07 16	CBC-COMPLETE BLOOD COUNT	0601	1045	1045			00
07 16	URINALYSIS	1232	495	495			00
	LABORATORY		6110*	6110*			00*
	** SUBTOTAL LESS RM/BD**		26995	26995	00	00	00

DATE POSTED NOT NECESSARILY DATE OF SERVICE

IRS FEDERAL NUMBER 93 0386912 STATE ID NUMBER 038941 2	TOTALS	85095	85095			00
	DEDUCTIONS		9200-	-	-	9200
PAGE NO 002	PAYMENTS					00
F201	BALANCE	85095	75895			9200

Senator HATFIELD. Mr. John E. Cook, Assistant Director of the National Park Service.

Mr. COOK. Thank you Mr. Chairman.

Senator HATFIELD. Well Mr. Cook, you have been very patient, too, and you are sort of the anchor man here in that I do not know of any other witnesses or anyone else who wishes to be heard at this time. The record will be kept open. I will repeat until October 1 for anyone who found it impossible or unable to be here for this day of hearing for them to submit a written statement for the record. Now Mr. Cook you do not have a written statement but I believe you have presented yourself here just in the role of anchor man to pick up for any questions that might remain if I understand your role?

Mr. COOK. That's correct. The service wishes to cooperate in every way with the committee.

Senator HATFIELD. Mr. Cook I think probably the best way to trigger your response at this time would be to ask you to give us your immediate reactions, not necessarily the ones that you may care to crank into your mental processes and maybe in a week or two come up with some observations, but what has been your general and specific as well, if you wish, immediate reactions to the testimony that you have heard here today in this hearing? The testimony, most especially presented by members of the National Park Service as it relates to the incidents, as it relates to the procedures followed, as it may relate to thier judgment. As it may relate to the interrelationships of the service, whatever you wish to include in what would be called your reactions and general evaluation assessment of the testimony that you have heard given by your associates in the National Park Service, and when you do that I would like to have you also include some specifics that I will wait to ask those specifics if you do not volunteer them.

STATEMENT OF JOHN E. COOK, ASSISTANT DIRECTOR, NATIONAL PARK SERVICE, WASHINGTON, D.C.

Mr. COOK. Fine. I am not sure I will volunteer all of the specifics you desire but I will be delighted to answer them. My immediate reaction to this day has been one—the testimony here is bearing out much of the information Regional Director Rutter and his staff have found in their evaluation of the entire situation from start to end.

Senator HATFIELD. Through the Board of Inquiry?

Mr. COOK. Through the Board of Inquiry and special investigations. I think it can best be summed up in that the situation at Crater Lake and borne out by testimony here showed an extreme low in levels of communication. It also exhibited some lack of strong leadership on the part of the National Park Service, an area in which I will of course take immediate action to bolster. A fuller understanding is necessary of what the delegations of authority truly are, and they are very well spelled out, but I believe its timely for reiteration of that delegation of authority and a reaffirmation of our true role as public servants, in order that all of our employees realize our role for serving the public and protecting the resource. I think that it would be, well we could go on for some time if I were to attempt to analyze individual testimony and I don't think that would be fair, having the benefit of perfect hindsight.

Senator HATFIELD. Mr. Cook, I think you have made a very excellent and amazingly succinct evaluation and assessment, and I recognize it for what it is because that's what I asked was a general immediate response. In the whole incident that surrounded this Crater Lake problem what was the role that the National Park Service Headquarters and specifically your department played in the actual decision to close the park or to keep it open?

Mr. COOK. The information relative to what the facts were at Crater Lake was being communicated through the normal channels of communication to me anyway. Mr. Ed Kurtz, Deputy Regional Director was serving as Acting Regional Director at the time and was personal point of contact. And I did have personal contacts with him because

at the national level we were concerned over what the situation was and what was causing it, what would be done. We also served as a conduit of information back from the CDC. I have on my immediate staff a group of Public Health Service employees headed up by HEW environmental health individuals. The ultimate decision to close the park was an automatic one. I am not sure that I could say I called the shot or Ed Kurtz called the shot. When we received information that they, and the final information with numbers and what you have been discussing here today came to my attention and Mr. Kurtz's attention, the decision was automatic, the park would be closed.

Senator HATFIELD. What was that date?

Mr. COOK. That date was about 7:45 eastern daylight time on July 11, in the morning, that I began to get information I could not reach Mr. Kurtz until about 8 something this time, subsequent to that I had received word from CDC that they were going to recommend closure. They participated with us in the development of a press release.

Senator HATFIELD. That day at 7:45 eastern standard time on July 11, what was the triggering information, fact, statistic, data that brought you to this automatic decision?

Mr. COOK. I don't believe that I could pinpoint a specific item. I received a morning briefing from the staff individual, he had late evening contact with the public health officials and I had late afternoon contact with Mr. Kurtz. There was nothing new in the information I received from Kurtz other than his feeling that you get that the situation is at a point where action is absolutely necessary now.

Senator HATFIELD. When again was the date that you first were aware that there were problems at Crater Lake National Park?

Mr. COOK. I believe, having my secretary reconstruct some shorthand notes, that I received telephone information on July 2. I don't believe I got it until the 3d that we had an outbreak of some illness within the YCC camp. Now that was the extent of the information, that the EPA and Public Health Service were on top of it and looking into it and there would be a followup come to me immediately. The Public Health Service on my staff, Senator.

Senator HATFIELD. Oh, on your staff. And then what was the next major bit of information that you received beyond the YCC infection?

Mr. COOK. After the Fourth of July weekend, and I could not, I cannot give you a date, but it was sometime in the week that we ultimately closed the park, I received word that they had, in fact, that there were, in fact, illnesses with regard to park and concession staff. And that an additional professional manpower was going in from many sources into the park.

Senator HATFIELD. Mr. Cook, one of the matters that came out of the hearing today was what appeared to me to be a lack of real understanding of the job description and the job responsibilities and the job authority from at least the level of the park superintendent upward. Did you get that feeling today in the testimony, generally speaking?

Mr. COOK. Yes, sir, I did, and it bothers me very much.

Senator HATFIELD. And then things seemed to go downward in terms of specific instructions, or the lack of specific instructions for

matters of sampling water and what kind of chain of command existed or did not exist, and again what was your reaction to that, was that something bothersome?

Mr. COOK. It goes to low levels of communication and not a thorough understanding of roles.

Senator HATFIELD. Do you, in your own mind and understanding of these various jobs from the superintendent of a park and to a group superintendent, do they have the authority to close the facility in the park on their own judgment under conditions that might be determined as emergency or threat to public health?

Mr. COOK. Yes, sir.

Senator HATFIELD. This can be done at the superintendent of the park level?

Mr. COOK. The superintendent has published delegations of authority which authorizes him in the exercising of his judgment to close all or any part of the park for a specific judgmental reason.

Senator HATFIELD. And for a specific period of time?

Mr. COOK. The period of time would depend on the reason he closed any of the facilities or the park.

Senator HATFIELD. Does this exist with or without clearance or authorization from a superior?

Mr. COOK. Yes, sir. Sound management predicates you inform your superior what you've done.

Senator HATFIELD. Yes, of course. Mr. Borgman indicated that while he felt he had the authority to close the park, he would want higher authority to support that decision. What would be the higher next step, higher authority in your organization?

Mr. COOK. The regional director.

Senator HATFIELD. The regional director, Mr. Rutter?

Mr. COOK. Yes.

Senator HATFIELD. Again, would Mr. Borgman's position hold the authority in itself to make a judgment to close the facility or an entire park?

Mr. COOK. Yes, sir.

Senator HATFIELD. Without specific approval from Rutter, but on the assumption that he would inform Mr. Rutter?

Mr. COOK. That is correct.

Senator HATFIELD. And who is the next immediate superior to Mr. Rutter?

Mr. COOK. In the normal chain of events that information would come to me.

Senator HATFIELD. To you?

Mr. COOK. Yes, sir.

Senator HATFIELD. And therefore, Mr. Rutter, if that decision were brought to him, he would have full authority to make the same decision on his own without your specific approval, but on the assumption that he would inform you of such action.

Mr. COOK. That is correct.

Senator HATFIELD. What steps either have been taken or are in the process of being taken to make certain that park superintendents and group leaders and regional directors, all others in the line of command have a clear understanding of their authority to close a park or facilities within the park as a result of this particular experience?

Mr. COOK. Well, it goes beyond just authorities, Senator. I believe, as a part of our revitalizing management of the National Park Service, under a new director, we are very agressively meeting with the regional directors and as many of the superintendents as possible to reiterate the fact that the superintendent is in effect the captain of that ship, and is responsible for everything that goes on in it.

Senator HATFIELD. Now Mr. Cook I am going to ask you a very tough question and I am not trying to put you on the spot at all, but by the same token I don't want to leave Mr. Sims on the spot if it's not fair or equitable to do so. The question is this. You have referred to revitalizing the National Park Service under the new director. Is it conceivable that under the then existing practices, precedents, moods, traditions of the National Park Service that it's very reasonable and very understandable that a park superintendent would demonstrate his reluctance to make a decision and take action as in this instance and that a group leader as Mr. Borgman would demonstrate the same general reluctance to take this kind of action, when in hindsight retrospect both gentlemen indicated that they would have done things differently but—I don't want to, you see, bring the full focus upon this particular incident or upon these particular men if, within the whole service, there were conditions unspoken and spoken attitudes that caused this kind of reluctance to be so apparent in this case?

Mr. COOK. Yes; I believe we must be fair to both these gentlemen and with all of us having the benefit of the hindsight I think we would do things differently. The service has undergone, as has many bureaus in Government the last couple of years, some great turmoil.

Senator HATFIELD. I know that.

Mr. COOK. We've undergone a change of leadership twice. We've undergone some very intense congressional inquiries which makes managers very sensitive. The closure of a national park is something without precedent. To my knowledge, and I am third generation National Park Service, this is the first total national park to be closed, so it is a monumentous decision to make. One that you'd want with all of your hearts desire to be sure you were right put in the climate of the times in the past. Different men would do things differently even at that given time. But I think we must be fair to both those gentlemen and recognize the total picture of that they were operating under.

Senator HATFIELD. You are very candid. Mr. Cook, one other matter that came out at this hearing that disturbed me and is really part of a bigger picture and that is relationship of the national parks to the concessions. It appeared to me that the park superintendent in this case was not fully apprised of the illnesses among the concessionaire employees. And the concessionaire also indicated that there was no immediate thought that came to make this information to the superintendent, so it appears to me that there again is another line of communication, that needs strengthening not only within the service of the National Park Service, but perhaps within the relationships to the concessionaires in the national parks. I am not making any general conclusion from this conclusion, but would imply that it exists in other national parks but because of this general impression that I received from this experience I wonder if you care to observe as to whether or not this is not another area that needs very careful review in the general park service.

Mr. COOK. Yes; and its one that has undergone and is continuing to undergo, not only review but action on our part. The role and relationship of the Park Service and the park manager to the concessions and the concessions contract management is something that has changed over the past few years. It has changed for many reasons. One has been the large onslaught of more visitations. Another, being very candid , has been the fact that the National Park Service staff-wise has not had the growth we feel necessary to maintain a level of professionalism in dealing with something that traditionally we dealt with in a different manner. To elaborate, a concession is a business. Most of our managers that you've heard today came up from a background of biology, natural sciences, were rangers, and eventually became managers and are not normally accustomed to dealing in a business sense in a busines world, and this is an area in which we are diligently working to strengthen the service and to strengthen the hand of the park superintendent because he is that contract manager. We are doing so by updating and republishing guidelines, regulations and by training. But it's one that concerns me, sir.

Senator HATFIELD. Mr. Cook, did, were you ever aware of any outside pressures, political pressures, other pressures to not close the park or to delay the closing of the park?

Mr. COOK. No, sir; in fact I asked my staff specifically those that would be most likely to come into any such pressures face to face at the Washington level, had they received any phone calls or were there any pressures, the answer was negative. Mr. Rutter, in his investigation, has come up with the same conclusion that we have not received any political pressures to not close the park.

Senator HATFIELD. When you say Mr. Rutter, does that speak for the entire region which includes the staff and personnel of the Crater Lake right on up?

Mr. COOK. It includes the full results of his investigation and when he says there is no evidence of that, that to me means it includes that staff all the way up.

Senator HATFIELD. Do you have any further statement or comment you wish to make, Mr. Cook?

Mr. COOK. Senator, I would just like to close again, pledging to you and to the committee our full desire to cooperate in these matters, but more than that I want the public to know we have learned from this situation at Crater Lake, and we intend to profit from the learning experience as absolutely terrible as it was and the effects it had on people, and if we can learn from our mistakes, we certainly hope there will be many, many fewer of them in the future.

Senator HATFIELD. When you indicated, one followup question, when you indicated this is the first time in history, to your knowledge, that a national park has been closed. Have there been occasions when facilities have been closed within a national park?

Mr. COOK. Yes, sir; I have done so myself.

Senator HATFIELD. And on basis of health and other such matters, what were the reasons generally, or what were some of the reasons for closing those facilities.

Mr. COOK. I closed the facility when I went to park superintendent because it did not meet the minimum health standard requirement after three surveys.

Senator HATFIELD. So the precedent in the closing of the entire park, not in the matter of closing facilities because of lack of standards within the park?

Mr. COOK. That is correct.

Senator HATFIELD. Thank you very much and again to you, Mr. Cook, we will follow through from this hearing and since we have had many relationships through our Committee on Interior in the past I am sure we are going to follow through on this and work together with you, and as you have pledged your support to this committee, I can speak very easily and assuredly that we pledge our cooperation to you as well. And with that I would like to ask you at what point were the House or the Senate Interior Committees informed of the situation at Crater Lake and as to the decision of the closure?

Mr. COOK. The morning of July 11 I had in my office our congressional liaison staff, our public affairs staff and my Public Health Service staff. They heard the information on the speaker phone and were under explicit instructions from me to simultaneously inform the delegation from this State and the committees, both House and Senate. I believe it was accomplished before 10 o'clock in the morning. No, it was not; it would have been 11 o'clock. Mr. Whitlock said it was accomplished.

Senator HATFIELD. Thank you very much.

Mr. COOK. Thank you, sir.

Senator HATFIELD. Does anyone else wish to be heard? If not the committee will stand in adjournment.

[Whereupon, at 10 p.m., the committee adjourned.]

APPENDIX

Additional Material Submitted for the Record

STATEMENT OF JOSEPH P. SCHOCK, DIRECTOR, PUBLIC HEALTH SERVICE, NATIONAL PARK SERVICE ENVIRONMENTAL SANITATION PROGRAM, DEPARTMENT OF THE INTERIOR

The following information was obtained by myself and Assistant Director John H. Fritz in discussions with various people regarding the outbreak of illness which led to closing Crater Lake National Park.

On July 2, Mr. McCabe, Acting Director, Water Quality Division, Health Effects Research Laboratory, EPA Cincinnati called to inform us that his Seattle Regional representative had learned a water supply system in the Park was contaminated. Mr. John McCutchen, of our Program in Denver who is responsible for providing consultation to the NPS Pacific Northwest areas was called and asked to contact the Park. He reported back that: 25 of 30 YCC staff were sick with diarrhea and nausea as well as some Park staff and families lasting about 24 hours: the State was making an investigation; all bacteriological samples were good and the Park was maintaining a 2.0 ppm chlorine residual in the water supply system. Based on this information it was assumed the problem was not water borne. Therefore, no one from our Program staff was sent to assist in the investigation. Mr. John E. Cook, Associate Director, Park System Management, NPS was informed of the situation.

On July 7, we were called by Dr. Gene Gangarosa, Deputy Director, Division of Bacterial Diseases, CDC, Atlanta. He reported that on July 6 the Oregon State Health Department requested assistance and Dr. Koplan, Epidemiological Investigating Officer, Center for Disease Control, Public Health Service, San Francisco, was sent to make an investigation. Topside NPS officials were routinely briefed concerning the latest information obtained from the field on this problem.

Contact was maintained with Dr. Gangarosa during July 8–9. Dr. Mark Rosenburg, a second EIS officer was sent from Atlanta, to provide assistance. During this period it was reported that the cause of the illness could not be determined.

On the morning of July 10, Dr. Gangarosa called to provide a status report as follows:

> The outbreak first occurred June 21, with a peak in cases on June 24. Another peak occurred July 1 or 2. Both apparently coincide with a large influx of persons in the park.
>
> As of July 10, there were an estimated 750 cases with some new cases continuing to appear.
>
> Identified symptoms were diarrhea, cramps, nausea, vomiting and headache. Although not life threatening the illness was quite severe with some persons possibly hospitalized. No confirmation of this obtained.
>
> The attack rate was unusually high being about 90% in both park employees and visitors.
>
> Based on epidemiological data available it did not appear that either water or food was the vehicle. However, one water sample (source not reported) showed 600 coliform/100 ml. It was not clear when or where this sample originated or whether it had been from a chlorinated supply. (This was probably the sample sent by the YCC to the laboratory). Later information showed a satisfactory chlorine residual.

This was considered a preliminary telephone report with some unanswered questions and Dr. Gangarosa would keep us informed.

At this time conversations between Dr. Gangarosa and our office focused on possibly closing the concession or reducing food service using only those people who were well and not serving food from all the concessions facilities. One difficulty was that food staff could be well today and sick tomorrow making policing the situation difficult.

After reviewing the situation again with Dr. Gangarosa around 2:30 P.M. (EDT) on the 10th it was decided to delay a final decision for 24 hours.

Based on the possibility of requiring modified food service operations Mr. Fritz who is responsible for the food sanitation aspects of our Program was scheduled to fly to the Park on the 11th to provide assistance.

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On July 11 (8:30 A.M.—EDT) we were informed by Dr. Gangarosa that he, Dr. David J. Sencer, Director CDC, and other top CDC Atlanta staff were going to meet to evaluate the problem. Dr. Sencer called this office at 10:45 A.M. EDT and recommended the Park be closed immediately. On the previous afternoon warm weather melted the last snow which had covered the sewer line disclosing open sewage on the ground. Dye tests by the State showed untreated sewage was contaminating the spring water supply source located below the sewer line. The hillside is of volcanic ash material and susceptible to surface contamination. This recommendation was discussed with Mr. John Cook and his Public Affairs and Congressional Liaison Staff; relayed by phone with Ed Kurtz, Deputy Director, PNW Regional Office who called the Superintendent to close the Park.

In view of these developments, Mr. Fritz' trip was cancelled and Michael Jensen, Sanitary Engineer, our Program representative at the Denver Service Center was contacted while on a field trip in Los Angeles and immediately sent to the Park to coordinate our environmental sanitation concerns.

Routine contact was kept with Mr. Jensen on-site and Dr. Gangarosa until the Park was re-opened August 1.

PREPARED STATEMENT OF JOHN A. RUTTER, REGIONAL DIRECTOR, PACIFIC NORTHWEST REGION, NATIONAL PARK SERVICE

Mr. Chairman, I am John A. Rutter, regional director of the Pacific Northwest Region of the National Park Service. I am responsible for the operation and management of 20 areas in the States of Alaska, Oregon, Washington, Idaho, and one area in Northern California.

Carter Lake National Park is part of a group of four areas administered by the Klamath Falls group office. This office provides management assistance, administrative services, and staff support to the four areas concerned. The general superintendent is under my direct supervision.

On July 9, I returned to the regional office after an extended trip and was advised by members of the staff that there was considerable sickness at Crater Lake National Park and that the Public Health Service, the Oregon State Department of Health, and representatives of the Center for Disease Control were present in the park. All appeared to be in good order. Everything was being done that could be done. I left the office for Olympic National Park to attend the Regional Advisory Committee meeting.

On July 10, I was advised by Deputy Regional Director Kurtz that there was some consideration being given to closing the park: that there appeared to be an epidemic affecting not only employees but visitors as well; that it had not been determined yet whether the cause of the epidemic was food borne or water borne; and also, as I recall, that the center for disease control in Atlanta said there was not sufficient evidence to warrant closing the park at that time.

On July 11, I was again contacted at Olympic National Park by Deputy Regional Director Kurtz who informed me that the park had been closed and that sewage had been found overflowing into Munson Springs contaminating the primary park water source. I left the meeting in Olympic. I returned to Seattle and left for Crater Lake on the morning of July 12 and remained there until the afternoon of July 13 when I returned to Seattle.

While there, I was briefed on the situation as of that time by representatives of the Public Health Service, the Oregon State Health Department, and the Environmental Protection Agency, as well as members of the park staff. As I recall, those present were Michael E. Jensen of the Public Health Service, William Titus of the Oregon State Health Department, and William Mullen of the Environmental Protection Agency. Members of the National Park Service were Superintendent Richard Sims of Crater Lake, General Superintendent Ernest Borgman of the Klamath Falls group office, and Maintenance Supervisor Thomas J. Arams of the Klamath group office.

After being briefed on the situation that existed at the park, a proposal was outlined to cleanse the system and restore potable water aimed at reopening the park as soon as possible. Briefly, we requested and received from the U.S. Army at Fort Lewis, Washington, three portable water treatment plants. The water system was flushed and sterilized and refilled with potable water from the Army units. During this time, we purchased a Neptune Microfloc Waterboy treatment plant in order that we would be able to filter our own water and release the Army units. After proper cleansing and testing of the system and

agreement by the State of Oregon, the Public Health Service, and the Environmental Protection Agency, the park was reopened to the public on August 1.

Simultaneously, plans were made to develop and reconstruct a new permanent water system utilizing water from Annie Spring, an uncontaminated water source, located at the junction of the south and west entrance roads. This source of water was approved by the Public Health Service, the Environmental Protection Agency, and the Oregon State Health Department.

After conferring with the regional staff on July 14, associate regional director Wayne Howe was sent to Crater Lake to assist Superintendent Sims and General Superintendent Borgman in any way possible. He was accompanied by Joseph B. Brooks, attorney, Regional Solicitor's Office in Portland. Regional Public Information Specialist Gale Brammer had been detailed to Crater Lake on July 11.

The contract was let on August 1 and construction started on August 6. It is expected that this new system will be completed and in use this fall. In the meantime, the temporary water treatment plant secured by the National Park Service will continue to be used to furnish a potable water supply.

On August 10, I directed that a board of inquiry be formed and an inquiry made into the circumstances leading up to the closure of the park. That board was comprised of Kurt Townsend, regional chief of maintenance, Southwest ice; Mrs. Nell Kuonen, chairman of the tourist and convention committee of the Klamath county chamber of commerce; Henry Ongerth, chief sanitary engineer of the State of California health department; Wayne Howe, associate regional director, Park System Management; and chairman Leroy Fisk, Water Control Division of the Oregon Institute of Technology, Klamath Falls, Oregon.

This board convened on August 10 at the community building in Crater Lake National Park and heard all those persons wishing to testify as well as statements from those persons requested to appear by general superintendent Borgman. The complete transcript and findings of that board are not available at this time. I attended parts of the hearing.

Previous to this time, a sequence of events had been compiled of those events prior to the closing of the park. After reading this material, listening to part of the testimony at the board of inquiry, and based on my own discussions of the situation, I concluded that further information was needed. I should add that I was also concerned by information reported in the press that there was a "cover-up" at Crater Lake and that pressure had been exerted on the National Park Service to delay closing the park.

On August 14, I asked Deputy Regional Director Kurtz and Capt. Larry Pinks of the U.S. Park Police assigned to the Pacific Northwest Region to go to Crater Lake and interview individual employees both of the National Park Service and the concession and any other person interested in furnishing information concerning the events leading up to the closing of the park.

From the review of all of the available information, at this time, we have concluded that there was no "cover-up" and that no pressure was exerted on the National Park Service to keep the park open. There were some imprudent acts and indiscreet comments made, but they appear in no way to have jeopardized the health of the visiting public, any member of the park staff, or the concessioner's staff.

It was found that, unfortunately, communications at all levels between all groups in the park were at an extremely low level, our inability to fill permanent vacancies on the park staff reduced operating efficiency, and strong direction on the part of the National Park Service at this time was lacking. Action has been initiated to correct this situation. After a thorough review, whatever measures are necessary will be taken to assure sound management of the park and proper communications between the various groups working and living in Crater Lake National Park.

This concludes my prepared statement, Mr. Chairman. I would be happy to answer any questions you or members of the committee may have.

Thank you.

STATEMENT OF LARRY B. SMITH, TEACHER, JACKSONVILLE, OREG.

Thank you for the opportunity of submitting written testimony concerning the hearings into the closing of Crater Lake National Park. I have been teaching here in Jacksonville for nine years and have worked for 14 summers at Crater Lake.

I feel that having seen the decision process concerning the closure of the park take place that I can add a small measure of behind the scenes information.

Toward the close of the hearings, one of the Lodge employees testified that he and Mr. Wheeler gave no indication that he was unhappy. I don't feel he was they were sick. I first heard about this on a first hand basis the night the Park closed on July 10th. My brother and myself had gone to the Rim Village area to post warning signs about the discovery of sewer contamination in the park's water supply. The warnings stated that under no circumstances was any water to be used.

In my brother's letter to your office describes the opposition of Mr. Ralph Peyton to the posting of the warnings. During his argument in the lobby of the Lodge, Pat Alendar and Myself proceeded down to the Cafeteria. Mr. Wheeler, of Grants Pass, the night clean up man, let us into the building. While we were posting the warnings, Mr. Wheeler began to tell me about girls being forced to work while ill. He said he went to his supervisor to complain about the situation and was told "to get my nose out of their business or be fired". He seemed to enjoy his job and Mr. Wheeler gave no indication that he was unhappy. I don't feel he was making up the story. Mr. Wheeler gave no hint as to who his supervisor was. It would have been good to have invited him to the hearing.

Some of the hearing testimony seemed to indicate that some of the stories about the Lodge Company had been fabricated because of unhappy working conditions and the workers wanted to get even with the Company.

They all missed the most obvious point of all. Mr. Peyton is the Lodge manager and thus the symbol of opposition. It is very obvious to the people around Mr. Peyton that he is an alcoholic and has been an active one for about 15 years. He is visibly drunk about 60% of the time. Because of this condition, he usually makes people very angry because of his harsh tongue. Many verbal complaints have been turned in but nothing has been done. An investigation was once conducted by a federal agency because of Mr. Peyton's racial slurs. Yet he keeps on representing the "park" and continues to get drunk and to make enemies for both the company and the Park Service. It has been understood that since the investigation has been underway. Mr. Peyton's lawyers have convinced him to lay off to present a better public image. He looked quite well at the hearings.

I was working the Information and Dispatch Desk at Park Headquarters the night of the 10th. The rock was discovered in the sewer line about 8:30 and we began to immediately warn the local residents. Mr. Sims and the public health people then gathered at headquarters. Mr. Sims was told by Dr. Rosenburg that the Park would have to be closed as soon as possible. Mr. Sims agreed whole heartedly. About 10:00 PM Dr. Rosenburg called Mr. Peyton to tell him about what was transpiring and that the water was not to be used. Mr. Peyton insisted that he be allowed to serve breakfast. Dr. Rosenburg suggested cold cereal and milk. Mr. Peyton wouldn't go along with it. He kept insisting that he be allowed to serve breakfast. Finally, Dr. Rosenburg said, "Mr. Peyton, I'm not going to argue with you any longer" and he then hung up. Mr. Peyton then appealed to Mr. Borgman and was turned down.

On the evening the 9th, while Drs. Kopland and Rosenburg were passing by the Dispatch Desk, I asked the doctors if they were aware of the signs that had been posted on the Rim indicating that the water was safe. Dr. Kopland became very upset over the sign and called Mr. Peyton a couple of weak names. As Dr. Rosenburg began to walk away he turned and said, "Really, the way the sign is worded, everything he says in the sign is true." Dr. Rosenburg also showed displeasure at the posting of the sign.

Off the record I would like to compliment you, Senator, on the way that you conducted the hearing. Your grasp of the issues and situation was amazing. Your line of questioning showed great insight. It was certainly an experience to have watched you act in a truely professional capacity.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
PUBLIC HEALTH SERVICE, CENTER FOR DISEASE CONTROL,
Atlanta, Ga., July 23, 1975.

Mr. JOSEPH SCHOCK,
Public Health Service,
1100 L Street NW., Washington, D.C.

DEAR MR. SCHOCK: From June 13 to July 11, 1975, 295 (92%) of 320 resident personnel and family members at Crater Lake National Park developed an in-

testinal illness with diarrhea (92%), cramps (76%), nausea (66%), vomiting (66%), chills (48%), headache (46%), muscle ache (45%), and fever (41%). Among these ill persons, 73% missed work, 11% consulted a physican, and none was hospitalized. Information collected from 101 of the approximately 900 visitors who stayed overnight at the park from July 4 to 9 revealed that 72 (72%) of them had experienced a similar illness. Data from individuals who had single short exposures to the park indicated that the incubation period of the illness was approximately 48 hours. The median duration of illness among park personnel was 8 days.

An etiologic agent has not been identified. Examination of rectal swabs and stool samples collected from 30 persons indicate that the illness was not caused by salmonellae, shigellae, vibrios, *Yersinia enterocolitica*, or orbivirus. Tests for toxigenic *Escherichia coli* and enteric viruses are in progress.

Among both park personnel and visitors, illness was highly associated with water consumption at the park ($p < .000005$). Water samples obtained from the water distribution system on and after July 1 were contaminated with coliform organisms. Inspection of the sewerage system on July 10 revealed an obstruction to sewage flow that resulted in an overflow of sewage into the park's watershed. A dye study confirmed that the source of contamination was the blocked sewer line.

Control measures included: 1) closing the park, 2) correcting existing defects in the water and sewerage systems, and 3) initiating careful surveillance of the park's water system. (A detailed list of recommendations made to the Park Superintendent at the time of the investigation is attached.) Because of the risk of exposure to hepatitis A, CDC recommended that all persons exposed to the drinking water be given immune serum globulin prophylaxis for hepatitis A.

Surveillance of the exposed population for hepatitis has been initiated by State and Territorial Epidemiologists and by CDC. Two hepatitis cases who had become ill prior to their visit used the park's toilet facilities to dispose of potentially infectious feces. However, surveillance has not identified any definite post-exposure cases of hepatitis among the estimated 100,000 persons exposed to Crater Lake during the outbreak.

JEFFREY P. KOPLAN, M.D.,
Medical Epidemiologist,
Field Services Division, Bureau of Epidemiology.
MARK L. ROSENBERG, M.D.,
Enteric Diseases Branch,
Bacterial Diseases Division, Bureau of Epidemiology.

Enclosure.

RECOMMENDATIONS TO THE SUPERINTENDENT OF CRATER LAKE NATIONAL PARK, JULY 12, 1975

1. The existing piped water system is contaminated and should not be used for drinking, cooking, tooth brushing, or washing. All ice-cubes and food prepared with Munson Springs water should be discarded.

2. Water from Annie Springs is potable and should be provided in adequate quantities for domestic use by resident park personnel. The Park Administration should obtain a commercial chlorine-containing bleach to distribute to all park personnel. Utensils and dishware contaminated with Munson Springs water should be washed and then soaked in a solution of 1 tablespoon of bleach to 1 gallon of warm water for at least 30 minutes. Contaminated containers used for water transport should be similarly treated. Adequate shower facilities should also be provided.

3. Park personnel who have not yet received gamma globulin should obtain it from their physician or local health department.

4. The Park should remain closed until:

(*a*) piped potable water has been provided for park residents; this should be the highest priority to allow remaining park personnel to achieve normal domestic routines.

(*b*) adequate toilet facilities are available at the rim and headquarters areas. These facilities must include adequate supplies of potable water for handwashing.

5. Thorough disinfection of the existing distribution system could be accomplished using water that is either filtered or derived from Annie Springs. Munson Springs water could be made potable by passage through a temporary

portable filtration-chlorination unit placed near the pump station. Alternatively, a water line could be constructed to deliver water from Annie Springs to the pump station.

6. All water system construction and disinfection should be supervised by the Oregon State Health Division or National Park Service consultants. Frequent monitoring of all parts of the system for bacterial contamination must be continued throughout the periods of disinfection, construction, and operation. The system should conform to standards set by the Oregon State Health Division and the United States Environmental Protection Agency.

7. Written records should be maintained of all monitoring for bacterial contamination and chlorine residual levels at various points in the distribution system. These points should include those parts of the system farthest from the point of disinfection.

8. Reports of unsatisfactory water specimens must be quickly and effectively followed-up with intensified monitoring of the system and correction of any possible system deficiencies. Arrangements should be made to assure rapid return of reports from testing facilities.

9. The park superintendent should designate a specific member of the park staff to have responsibility for sanitation and water quality in the park.

10. A written record of all reported gastroenteric illness occurring in the park personnel and visitors should be maintained in the administration office. This record should include name and address of ill person, dates of arrival at park and onset of illness, symptoms, and where persons stayed in the park.

11. Public food service facilities should not be re-opened before thorough disinfection of all contaminated water lines, ice-making materials, and food preparation and service items. This process should be supervised by the Oregon State Division of Health or National Park Service Consultants.

12. Protecting the health of park personnel and visitors must be the primary objective in the implementation of these recommendations. Alternative solutions may be adopted but health must not be compromised.

These interim recommendations were submitted by the following persons:

G. Edward Barnes, District Sanitarian, Bend District, Oregon State Health Division.

Jeffrey P. Koplan, M.D., Bureau of Epidemiology, Center for Disease Control, United States Public Health Service, Altanta, Ga.

William A. Mullen, Chief, Drinking Water Programs Branch, U.S. Environmental Protection Agency, Region 10, Seattle, Wash.

Michael O'Neal, Regional Engineer, Oregon State Health Division.

Mark L. Rosenberg, M.D., Bureau of Epidemiology, Center for Disease Control, United States Public Health Service, Atlanta, Ga.

Willard S. Titus, Sanitarian, Oregon State Health Division.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
REGION X,
Seattle, Wash., August 1, 1975.

Mr. RICHARD H. SIMS,
Superintendent, Crater Lake National Park,
Crater Lake, Oreg.

DEAR MR. SIMS: The conditions which led to the recent contamination of the water supply system at Crater Lake and the resulting illnesses and Park closure are a concern to us all. We have worked closely with you and your staff, the NPS consultant staff from Denver, and Oregon State Health Division personnel to assure the provision of safe drinking water during the emergency period and to reestablish the Park's water supply system as a safe source of supply for Park residents and visitors.

After review of the facility operations and water quality data by Mr. Mullen on July 29, 1975, we were able to concur that the water met the quality criteria of the EPA Propjosed Interim Primary Drinking Water Regulations and that the system was capable of providing safe water for domestic use. That decision and our concurrence for Park reopening was predicated upon certain conditions being met. These were expressed during the meeting in your office on the afternoon of July 29 and are itemized below.

(1) Water now being made and in the system has been determined potable. It appears that the quantity of water may not be adequate for full operation of all facilities. Therefore, curtailment of some activities may be necessary. Water

supply production and storage must be carefully monitored. The three Army treatment units are producing at capacity to assure safe water. Increased filtration rates to meet new demands for water must not be permitted.

(2) Close monitoring of turbidity and chlorine residuals in the finished water is essential. The current procedure for producing water with turbidity no greater than 0.1–0.2 turbidity units must be maintained. Water produced after backwashing must be discharged to waste or recycled until these limits are reached. A free chlorine residual of 2 to 3 mg/l in the finished water after filtration and 1 to 2 mg/l in the distribution system will provide adequate disinfection.

(3) Until Annie Springs water is provided as a permanent solution for water supply needs at the Headquarters and Rim areas, the following surveillance activities are essential:

a. At least one raw water and one finished water sample from each system (Headquarters area and Rim) shall be submitted each week to a certified laboratory to document compliance with bacteriological quality regulations. Sample locations within the distribution system are to be identified by the NPS consultant.

b. Chlorine residual analyses are to be made daily at locations in each system in accordance with the plan developed by the NPS consultant.

c. Bacteriological testing will be conducted by NPC staff using membrane filter units to supplement sampling submitted to the laboratory. At least one raw water and one finished water sample from the treatment plant will be run daily. At least three finished water samples will be collected weekly at random from the distribution system. These samples will be collected and run at different times and locations than those submitted to the laboratory.

(4) The Neptune Microfloc plant currently being set up to treat Munson Springs water must not be used for producing treated water for distribution until a qualified, preferably certified, operator is on board and familiar with the system, and until laboratory data substantiate the unit's capability for producing safe water. Qualified operators must be on duty at all times during which the unit operates.

(5) One individual on the permanent park staff must be designated responsible for operation of the treatment facilities, including distribution system sampling.

(6) Pressure testing or television surveillance of the sewer line above the water treatment plant intake is to be accomplished as soon as a contract can be let.

(7) Following determination of the integrity of the sewer line, a dye test is to be conducted. Time of travel between critical manholes is to be determined and recorded for comparison with similar measurements made next year before the sewer line is placed into service. Samples of water from the spring and treatment plant intake are to be analyzed for fluorescence as a further check on potential contamination of the source.

(8) As a further step in improving raw water quality, we strongly recommend that inlet lines to the spring collection box which continue to show high concentrations of total and fecal coliforms be plugged or their flow diverted.

In conclusion, continued safety of the water supply at Crater Lake National Park can be assured only if adequate operation and close surveillance of the treatment facilities are provided. Highest priority must be given to these functions and to implementation of the permanent solution of providing safe water for Park residents and visitors. If the current and proposed treatment practices and surveillance activities are found inadequate, I will take appropriate action authorized to me by the Safe Drinking Water Act to protect the public health.

Sincerely,

CLIFFORD V. SMITH, Jr., Ph. D., P.E.,
Regional Administrator.

ENVIRONMENTAL SANITATION PROGRAM

PROGRESS REPORT: SANITARY STATUS OF NPS WATER SUPPLY SYSTEMS

An evaluation of the sanitary status of 1183 NPS water supply systems shows significant improvement has been made in monitoring the systems for bacteriological and chemical quality, and the bacteriological quality of water delivered to the consumer last year. Problems continue with maintenance of treatment equipment. Forty-four (44) systems were classified *Use Prohibited* and 55 systems need treatment.

STANDARDS

EPA has proposed revised drinking water standards (DWS) under the recently enacted Safe Drinking Water Act, Public Law 93–523. Changes have been made in monitoring frequencies, maximum permissible limits, reporting and other criteria. The proposed standards were used as the basis for this report.

The following data have been compiled for each NPS water supply system for 1974.

system designation;
type of treatment;
source (ground, surface, etc.);
number of bacteriological samples required;
number of bacteriological samples taken;
date of last complete chemical analysis;
chemicals exceeding limits;
construction and maintenance problems identified; and during environmental health survey,

These data are summarized in Tables 1 and 2.

GENERAL DISCUSSION

The source of drinking water throughout the country is deteriorating. Although ground waters obtained from aquifers beneath impervious strata have heretofore been considered sufficiently protected from bacterial contamination to preclude need for disinfection, this is frequently not true today. Ground waters are gradually becoming polluted.

Many existing NPS systems were built years ago. Due to deterioration of the system, and decline of the raw water quality, many of these systems can no longer be relied upon to consistently produce safe water. Public health standards require treatment of all surface water, and also for ground water unless a history of satisfactory bacteriological quality and sanitary surveys has been developed. Surface waters require continuous disinfection and generally filtration.

This report does not include data on an estimated 100 back-country systems.

EVALUATION

Chemical monitoring

Compliance with DWS:	*Percent*
1972	23
1973	48
1974 (estimated)	86

[redacted]

Our one-half of the systems in the Provisionally Satisfactory category were not sampled for possible bacteriological contamination at the recommended frequency. This could be corrected by more attentive management and concern by the Parks that water being delivered is safe.

There are 44 systems classified as Use Prohibited because of unsafe bacteriological quality, construction and/or treatment needs. They require immediate improvement, or the system should be removed from service. Specific recommendations are being made to Superintendents for each of these systems.

An Insufficient Data category was established this reporting period because data are insufficient to make a final classification or improvements are being made to the system but the work is not completed so that it can not be determined if the problem is solved. This interim classification carrys a time period in which necessary correction of deficiencies must be made in order to achieve a higher classification, otherwise it will revert to the Use Prohibited status. A time table of correction was developed for each of these systems. If a significant health hazard exists, budgetary restrictions do not constitute a sufficient excuse to prevent compliance with the time table.

The percentage of systems in the Not Classified category increased due to a more concentrated effort to identify municipal sources.

RECOMMENDATIONS

1. Systems classified Use Prohibited should not be used until corrective action has been taken. Plans for effecting needed improvements are being worked out with the Parks and Regions.
2. $20,000 should be allocated in fiscal year 1976 for chemical analysis work.
3. Better maintenance of treatment equipment is needed.
4. An adequate bacteriological sampling program should be followed for each system when in operation.
5. A study of all back country water supply systems should be conducted to identify potential health hazards and methods of correction.

TABLE 1.—SANITARY STATUS NPS WATSR SUPPLY SYSTEMS

	1974	
	Number	Percent
A. General:		
1. Source:		
NPS controlled:		
Public systems	800	68
Single family, residential	246	20
Subtotal	1,046	
Municipal	137	12
Total	1,183	
2. Treatment (NPS controlled).		
Wells springs:		
Treated	258	34
Not treated	492	66
Subtotal	750	
Surface:		
Treated	189	89
Not treated	38	17
Subtotal	227	
All systems:		
Treated	447	46
Not treated	530	54
Subtotal	977	
Other	69	
Total	1,046	

1972	1973	1974

TABLE 1.—SANITARY STATUS NPS WATER SUPPLY SYSTSMS—Continued

	1974		
		Number	Percent
B. Monitoring (percent):			
1. Chemical:			
Compliance with DWS	23	48	[1] 86
Non-compliance with DWS	77	52	[1] 14
2 Bacteriological.			
Compliance with DWS	27	47	71
Noncompliance with DWS	73	53	29
		Maximum limit	Number of systems
C. Quality:			
1. Chemical:			
(a) Systems with fluoride levels exceeding DWS—being used in accordance with PHS recommendations			26
(b) Systems having chemical levels above 75 percent maximum limit in DWS requires intensified monitoring program (excludes fluorides)		75–99	16
		100	34

	1974		Total		
	Public	Residential	Number	Percent	1973 percent
2 Bacteriological—NPS controlled					
Compliance with DWS	715	200	915	[2] 87	81
Noncompliance with DWS	85	46	131	[2] 13	19
Classified provisionally satisfactory	60	45	105		
Classified use prohibited	25	1	26		
Systems with treatment	13	0	13		
D Reliability.					
1 Systems requiring immediate treatment		55			

[1] Estimated.
[2] These preliminary figures may change due to additional data obtained for 170 (14 percent) of the systems classified insufficient data.

TABLE 2.—CLASSIFICATION OF NPS WATER SUPPLY SYSTEMS, APRIL 1975

Classification	1973 percent	1974 Percent	1974 Number
Satisfactory—Complies with all DWS	10	31	362
Provisionally satisfactory—Deficiencies exist but there is not eminent or substantial danger to health	28	40	477
Insufficient data—Deficiencies may exist but insufficient data is available to determine true status—Could revert to any of the 3 classifications or deficiencies exist and available data indicates there is potential danger to health unless improvements are made in accordance with an established timetable system—Otherwise will revert to use prohibited	54	14	170
Use prohibited—Significant health hazard exist—System shall not be used until corrections are made	2	3	44
Total			1,046
Not classified—NPS facility served by local municipal system	6	12	137
Total		100	1,183

[From the U.S. Department of Health, Education, and Welfare, July 12, 1975]

(Epidemiologic Notes and Reports)

OUTBREAK OF GASTROINTESTINAL ILLNESS AT CRATER LAKE NATIONAL PARK, OREG.

From June 16 to July 11, 1975, an estimated 1,000 or more residents and visitors to the Crater Lake National Park in Oregon became ill with a disease which lasted several days and was characterized by sudden nausea and vomiting, then

cramps and moderately severe diarrhea with chills and headache. The outbreak was first recognized in the first week of July among park staff who reported their illness to the Klamath County Health Department. A survey of 317 of the 345 park employees on July 8–10 revealed an attack rate of 91%, with the first cases occurring approximately June 16. Preliminary data from questionnaires administered to 121 of 900 persons who were lodge guests on or before July 1–2 identified 95 ill persons, for an attack rate of 79%. In some persons who had apparently recovered, the original symptoms returned in what appeared to be a biphasie and sometimes triphasic illness. On July 10 and 11, 2 members of the park staff complained of arthralgia, and 1 of the 2 also had an urticarial rash. No deaths or serious complications have been reported. Laboratory examination of stool specimens from ill persons have not identified an etiologic agent.

The surveys showed 2 epidemic peaks, 1 on June 25 and the other on July 1. Forty-eight hours before each peak, there was an influx of newly arrived persons into the park. Fourteen persons of a group of 15 who toured the park together on July 4 became ill 48 hours[1] after arriving at the park and 24 hours after returning to their homes. The ill persons consumed food served at 4 separate park facilities; these facilities had separate kitchens, foodhandlers, and sources of food. All ill persons used water from a central source that was distributed after chlorination. The 1 person in the group who did not become ill drank no water while at the park and did not eat at the park facilities; further investigation identified 5 other non-ill persons from different tourist groups who had similar histories. Among the 317 employees surveyed, there was a highly significant association between water consumption and illness ($p < 0.000001$) (Table 1).

TABLE 1.—GASTROINTESTINAL ILLNESS BY AMOUNT OF WATER CONSUMED, CRATER LAKE NATIONAL PARK, OREG, JUNE 16–JULY 11, 1975

Number of glasses of water consumed	Number ill	Number well
0	10	12
>1	285	9

Water samples obtained from the water distribution system on and after June 30 were contaminated with coliform organisms. On July 2 a higher dose of chlorine was added; however, although some parts of the distribution system had chlorine levels of 1–2 parts per million, other parts had no measurable chlorine levels. Inspection of the sewerage system on July 10 revealed a rock blocking the sewage flow, resulting in an overflow which eventually entered the water system at the source of the water. A dye study confirmed that the source of the contamination was the blocked sewer line.

Control measures have included 1) closing the park, 2) correcting existing defects in the water and sewerage systems, and 3) initiating a total reevaluation of these 2 systems.

[Reported by John A. Googins, M.D., State Epidemiologist, G. Edward Barnes, District Sanitarian, Michael O'Neal, Regional Engineer, Willard S. Titus, Sanitarian, Kay Yarabinec, Nurse Consultant, Peter Von Ohlen, Sanitarian Engineer, and Katherine Jones, Assistant Epidemiologist, Oregon Health Division; Richard Sims, Superintendent, and Jeff Adams, Facilities Management Officer, Crater Lake National Park; David Bussen and Gina Wright, Sanitarians Klamath County Health Department, Oregon; Bruce Stubblefield, Director, Jack Stump and Patricia Billig, Staff Members, Youth Conservation Corps; Gunther F. Craun, Sanitary Engineer, Health Effects Research Laboratory, Environmental Protection Agency, Cincinnati, Bill Mullen, Chief, Drinking Water Programs Branch, Environmental Protection Agency, Seattle, Wash; Michael Jensen, Sanitary Engineer, National Park Service, Denver, and Public Health Service-National Park Service Environmental Sanitation Program, Department of the Interior, Washington, D.C.; and Members of the Staff of the Bureau of Epidemiology, CDC, and an EIS Officer.]

EDITORIAL NOTE

Epidemiologic and environmental investigation strongly suggest that this outbreak was caused by contaminated water. Because of the possible risk of exposure to hepatitis A, CDC notified all State and territorial epidemiologists on July 11, 1975, informing them of the epidemic and CDC's recommendation that all persons exposed to the drinking water be identified if possible and given

[1] Median values.

immune serum globulin (ISG) prophylaxis for hepatitis A. Also, all guests who registered in the park from June 10 through July 11 are being contacted by the park service and advised of these recommendations.

In most instances hepatitis A has not occurred after herald waves of gastroenteritis caused by acute sewage contamination of drinking water (*1*). Therefore, the use of ISG following waterborne outbreaks of gastroenteritis has not been routinely recommended. However, careful surveillance of the exposed population is always recommended, as is the institution of ISG prophylaxis if and when the first case of hepatitis is recognized among those at risk.

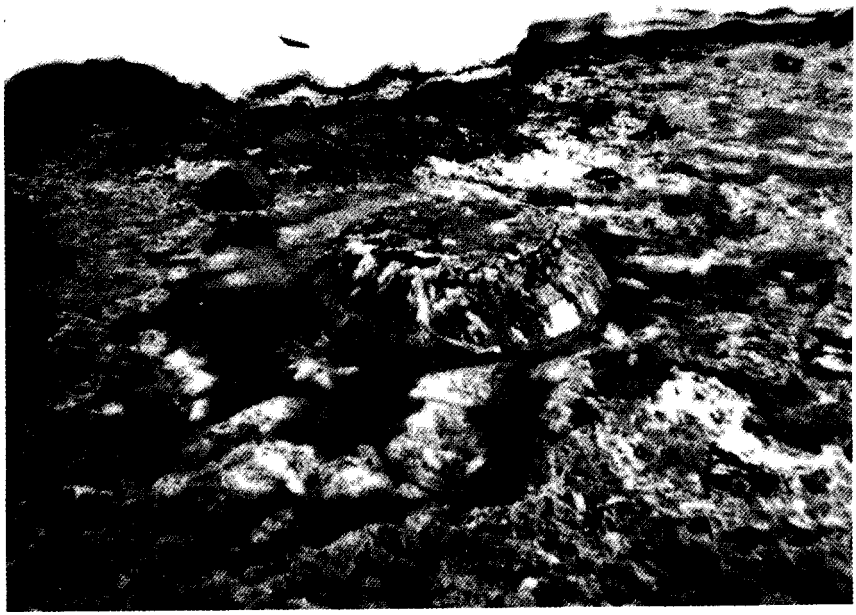
The recommendation for use of ISG in this instance was based upon these facts: 2 early suspect cases of hepatitis had been identified in permanent park residents, the degree of sewage contamination of the drinking water was considered great, there was evidence that a park visitor had been incubating hepatitis A during his approximate 24-hour stay at the park facility, and adequate surveillance of the population at risk would be difficult at best.

To date, blood samples have been obtained for SGOT determinations from 81 fulltime park residents, and although no cases of hepatitis have been identified, ISG is still recommended for those who were possibly exposed.

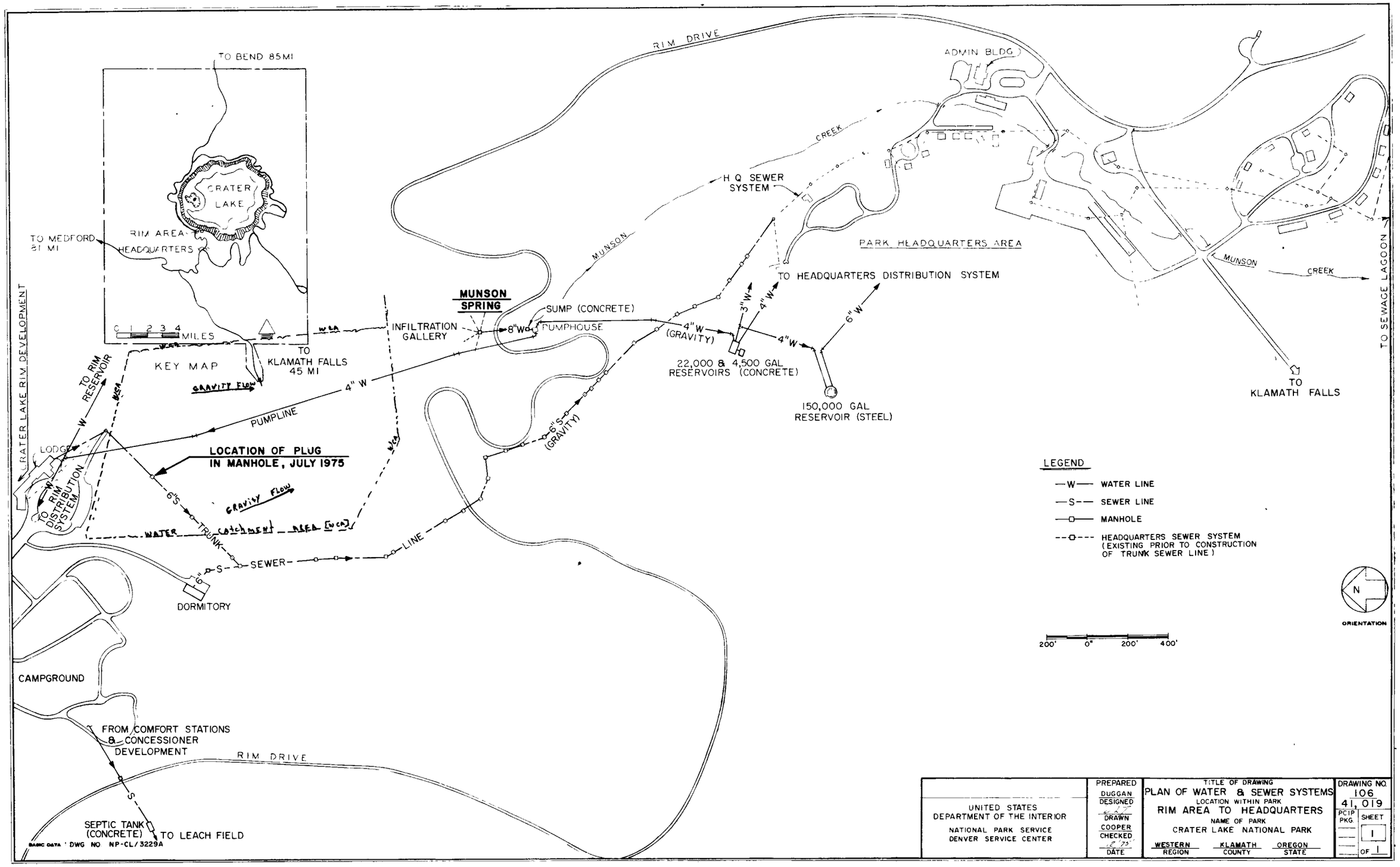
PHOTOGRAPHS SHOWING THE SEWERAGE OVERFLOW AT THE TIME OF DISCOVERY, 7 P.M. PCST, JULY 10, 1975

PICTURE NO. 1.—Man hole No. 3 down from Crater Lake Lodge, located 100+ yards from parking lot at Crater Lake Lodge.

PICTURE No. 2



PICTURE No. 3.—View of overflow looking from direction of parking lot area.



BASIC DATA · DWG NO NP-CL/3229A

UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DENVER SERVICE CENTER	PREPARED DUGGAN DESIGNED DRAWN COOPER CHECKED DATE	TITLE OF DRAWING PLAN OF WATER & SEWER SYSTEMS LOCATION WITHIN PARK RIM AREA TO HEADQUARTERS NAME OF PARK CRATER LAKE NATIONAL PARK WESTERN REGION · KLAMATH COUNTY · OREGON STATE	DRAWING NO. 106 41,019 PCIP PKG. SHEET 1 OF 1

PICTURE No. 4.—View of overflow 15 yards down from Man Hole, looking toward Crater Lake Lodge.

U.S. DEPARTMENT OF THE INTERIOR,
NATIONAL PARK SERVICE,
DENVER SERVICE CENTER,
Denver, Colo., December 10, 1975.

Mr. JOSEPH SCHOCK,
Director, PHS–NPS Environmental Sanitation Program, U.S. Department of the Interior, National Park Service—OMH, Washington, D.C.

DEAR MR. SCHOCK: In accordance with your recent telephone request to this office for a drawing showing the general features of the water and sewer systems at Crater Lake National Park, enclosed are four full-size prints and four half-size prints of Drawing No. 106-41,019, 1 sheet. Please note that we have indicated on the drawing the location of the manhole plug which caused pollution of the Munson Spring water source in July of this year. Additional information requested is summarized below.

Phase of construction	Construction contractor	Date completed and inspected
6-in trunk sewerline	Sheppard & Phillips, Roseburg, Oreg	1966
6-in dormitory sewer lateral	do	1973
Munson Spring infiltration gallery	Dellar Construction Co., Eugene, Oreg	1957
Munson Spring pumphouse and collection sump		1928

The National Park Service was the contracting agency for the above construction.

If we can be of any further assistance in this matter, please let us know.

Sincerely,

WILLIAM ROSENBERG,
Chief, Branch of Design, Pacific Northwest/Western Team.

Enclosure.