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5 APPEAL OF DOYON, LIMITED

6 From Decision of Bureau of
7 Land Management

8 No. F-19155-26
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ANCAB RLS 76-2

Navigability of Kandik
and Nation Rivers

10 VOLUME III

11 TRANSCRIPT OF PROCEEDINGS

12
13 Pages 352 through 612
14
15

16 September 28, 1978
17 9:00 a.m.
18 Federal Building
19 U. S. District Court
20 Room 340
21 101 Twelfth Avenue
22 Fairbanks, Alaska
23
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P R O C E E D I N G S

(Continuation of Direct Examination of Jules Tileston by
Ms. Neville)

MR. LUOMA: This hearing will come to order.
Miss Neville.

MS. NEVILLE: I'd like to recall Jules Tileston
to the stand.

BY MS. NEVILLE:

Q Mr. Tileston, did you prepare a similar series of slides
to illustrate your observations at the Kandik River?

A Yes, I did.

Q Is the group of slides that has been marked Exhibit
Thirty-three that group of slides on the Kandik River?

A Yes.

Q Did you personally take all the photographs that are
included in this series?

A No, I did not.

Q Do you know who took each slide?

A Yes, I do.

Q Can you testify from your own personal knowledge as to
the location and date that each photograph was taken?

A Yes, I can.

MS. NEVILLE: Your Honor, I would like to
introduce Exhibit Thirty-three into evidence.

MR. LUOMA: Any objection?

1 MS. TAYLOR: No, Your Honor. I assume we'll
2 do the same proceed as last time, that we're going to see the-
3 the slides and if possible we'd reserve an objection, should
4 there come up--

5 MR. LUOMA: Yes.

6 MS. TAYLOR: --a slide that--that there's no
7 proper foundation for.

8 MR. LUOMA: Is the physical make up of Exhibit
9 Thirty-three the same as Exhibit Thirty-two?

10 MS. NEVILLE: Yes.

11 MR. LUOMA: Slides in a carousel?

12 MS. NEVILLE: That's right.

13 MR. LUOMA: Alright. Exhibit B-Thirty-three
14 is received in evidence. (Pause) Excuse me, before you
15 start, how many are there?

16 MS. NEVILLE: Just a minute.

17 A Fifty-eight, Your Honor.

18 MR. LUOMA: And are they also numbered one
19 through fifty-eight, sequentially?

20 MS. NEVILLE: That's right.

21 MR. LUOMA: Alright.

22 Q (By Ms. Neville) Alright. This is Kandik slide number
23 one. Could you tell us when and where it was taken
24 and what it shows?

25 A Slide number one was taken August 4, it is--1978. It is

1 of the Yukon River and the mouth of the Kandik River,
2 in the extreme right hand corner. The dark object
3 coming down is the helicopter propellor, as we're coming
4 across. We are looking downstream on the Yukon River
5 or, in this particular area, westerly. The right bank
6 is in the lower right hand corner, which would be the
7 north bank of the Yukon. The first slide on the Nation
8 River showed a helicopter sitting on a gravel bar, with
9 some fuel supplies. This is that gravel bar, just for
10 reference, so that you know where that one was. It was
11 our refueling site for the helicopter. The fuel was
12 brought in by boat to this point. The mouth comes out
13 and again heels downstream in a very similar way as
14 the Nation does.

15 Q This is slide number two. Could you tell us when and
16 where it was taken?

17 A This was taken the same day, which is August 4. It,
18 again, is a more upstream perspective of the mouth of
19 the Kandik River, looking downstream from an island.
20 The large mass of trees that you see between the Yukon
21 River and a small muddy colored stream is not part of
22 the Kandik itself. This is an island in the Yukon.
23 The Kandik is clear. And there's one point that need--
24 needs to be made at this point, the mouth of the Kandik
25 is not braided and does not have the characteristic of

1 braided channels in its mouth, that we saw in the Nation.
2 So here is one major distinction, there is a very define
3 channel. And in this area, against the cutbank, there's
4 probably six to eight feet of water. That's estimated,
5 I don't have a direct measurement. I've been through
6 this area numerous times and the water is very deep.

7 Q This is slide number three. Could you tell us when
8 and where it was taken?

9 A Slide number three was taken on the gravel bar that
10 will be shown in the next photograph. It was taken
11 September 4th, 1972. It shows the helicopter, a
12 seventeen foot square-stern canoe. A--excuse me, a
13 nineteen foot square-stern canoe. A seventeen foot
14 standard canoe. Which were airlifted about fifteen
15 miles into Canada at a junction point where the three
16 streams came together to form floatable water on the
17 Kandik. The motor that you see in the photograph was
18 not used on this river. It was for downstream propulsion
19 on the Na--on the Yukon itself. This was part of a long
20 trip. We had used many of the same boats, we were
21 changing people, and it was a series of airlifts. We had
22 started August 23rd of the same year at Chicken. We had
23 started actually at Joseph and had some all the way down
24 the Fortymile River to the mouth of the Yukon, come down
25 the Yukon by canoe, again, to Circle. Part of the party

1 had changed. We came down the Yukon River to the Kandik
2 at this point. And we'd been on the river--or on rivers
3 at this point, for a week and a half. So we had various
4 equipment. All of the other equipment that you see here
5 and it's estimated at about six hundred pounds in total,
6 that was our food and everything, was airlifted into the
7 headwaters and then divided between the two canoes.
8 There were only three people that came down, although
9 you see the pilot and one other individual. That
10 individual went back to--which is standing next to the
11 helicopter, went back to Circle and left. So there
12 were only three of us that came down, myself, a Park's
13 Service representative, and a Bureau of Land Management
14 representative. At this time I was working for the
15 Bureau of Outdoor Recreation. The water level, and
16 this was, again, early September, was about a foot
17 and a half high. And I make that judgment based on
18 the stream vegetation that was submerged. But I also
19 want to point out, you'll see a very marked drift line
20 right behind the canoe. And within the preceding several
21 days the water had been at least that high and deposited
22 small twigs and sticks, which, again, indicates that
23 the river had been higher very recently. And I say--

24 Q Excuse me.

25 A --recently because it was mud.

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1 Q When you say the water was a foot and a half high do you
2 mean that the depth was a foot and a half or it was a
3 foot and a half higher than normal--

4 A Higher than normal, at this point.

5 Q Thank you. This is slide number four. Could you tell
6 us when and where it was taken and what it shows?

7 A This was taken August 4. It is looking down the Yukon--
8 or down the Kandik River to its confluence. The area
9 which we were loading the helicopters in, in 1972, is
10 on this large gravel bar. It is also about as far as
11 you can go upstream with a regular motor. When I was
12 moose hunting in this area in September of '75 I had
13 come upstream from Circle from--via motor on an Avon
14 raft, twenty-five horse motor, pulling a seventeen foot
15 canoe. It's the same canoe that you saw in the left
16 hand side of the preceding photograph. I could get to
17 this point and then my motor started dragging on the
18 bottom and I had to stop. And that--again, I did not
19 have a lift, but I could not get upstream with a con-
20 ventional motor, without having some type of a special
21 lift on it. I didn't have that, so what I did is I
22 parked the larger boat and larger motor and transferred
23 to the canoe. And I used a four horse and went upstream
24 from this point approximately to the vicinity of Gor--
25 of Johnson Gorge.

1 Q This is slide number five. Could you tell us when and
2 where it was taken?

3 A Slide number five was taken August 5--excuse me, August
4 4. It shows one of the very numerous log jams and
5 shallow waters immediately upstream from the preceding
6 series of slides. You are looking southeasterly, across
7 a large flat of--of tundra vegetation, black spruce.
8 And the water body that you see in the foreground is
9 not the Yukon River, but a lake. A smaller--a rather
10 large lake. The Yukon River itself is over against this
11 bluff and by air is probably two, two and a half miles
12 to that point. We're about a mile and a half above the
13 mouth on the river itself. You'll see a braided channel
14 coming around and a new cut. We observed, using the
15 1965 G.S. photographs--or G.S. one inch to the mile,
16 several places where the channels have changed since
17 those photo--since those maps were made in '65 and,
18 in fact, where the channel is now. In other words,
19 when you compare these maps to the photographs, you'll
20 find several places where a channel like this in '65
21 is shown G.S. as the principal channel, where today
22 the water is here. This, again, leads to some discrepan-
23 cies on actual river miles, as to how you measure it,
24 because you have a choice. And these all show as
25 generally blue, as having water in them. When, in

1 reality, for most of the year they do not have, when
2 you look at the--the actual paper map.

3 Q This is slide number six. Could you tell us where and
4 when it was taken?

5 A It was taken August 4. It's about two hundred yards
6 upstream from the preceding slide. It's in a braided
7 section. Again, a very narrow chute. There's probably
8 three feet of water coming through this area. It comes
9 down and you've got about a foot of water at this
10 end. You have a log jam at the area above, on the
11 left hand channel. You have trees strung wrong--
12 strung along. And you can see in the extreme right
13 hand corner of the slide against the right bank a series
14 of sweepers. It's going upstream--or downstream in
15 the--in different water levels all you're doing is
16 moving your navigation ha--hazards to different places,
17 they're still there.

18 Q This is slide number seven. Could you tell me where
19 and when it was taken?

20 A This slide was taken August 4. It is the approximate
21 location of the downstream flow measurement station--
22 (indiscernible--sneezing in background)--by geological
23 survey, which is in this general vicinity.

24 Q This is slide number eight. Could you tell us when
25 and where it was taken?

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1 A This is another perspective of the same gravel bar.
2 The preceding shot was taken over this group of trees,
3 over the left bank looking upstream. We're now on the
4 opposite side of the river, looking down, in the pre-
5 paration to landing.

6 Q This is slide number nine. Could you tell us when and
7 where it was taken?

8 A It's--we've made a complete circle. The last shot was
9 there, and, again, coming in to land on the bar.

10 MR. LUOMA: You're not stating when the
11 pictures were taken.

12 A I'm sorry, Your Honor. The sli--picture was taken August
13 4. This picture was taken by Mr. McClure from our
14 Washington office. It was taken August 4. It shows
15 the two G.S. hydrologists conducting their stream gauging
16 flow measurements across the bank. You can see the red
17 tags from where they've strung the line. And they took
18 precise measurements--or took measurements of flow and
19 depth all the way across.

20 Q Now, this is slide number ten. Was this taken at the
21 same location as the preceding two slides?

22 A Yes. It's on the ground and upstream. The river flows
23 around to this way, flows to the right, out of the picture.
24 The last slide--preceding slide was taken over this group
25 of trees and this was the gravel bar, which we're looking

1 at, and had a general perspective from left to right.

2 Q This is slide number eleven. Could you tell us when
3 and where it was taken?

4 A It was taken August 4. It's nothing more than a closer
5 view of the individuals measuring water. I should point
6 out that the slide--these people were taking the measure-
7 ments as they were going. They're not standing in the
8 same place. So I do not want to give the impression
9 that the preceding slide show a depth of water that
10 was the same as this. The last slide had been taken
11 out deeper, in the main channel.

12 Q Okay. This is slide number twelve. Could you tell us
13 when and where it was taken and what it shows?

14 A Yes, I can. I need to clarify one point, though, before
15 I go on. Slides eight through eleven, which was of the
16 G.S. flow measurement station, were taken at approximately
17 two miles above the mouth of the river and forty-five
18 miles downstream from the selection boundary. I forgot
19 to make that point clear. This particular slide is
20 a mile further upstream. It is at mile three and is
21 forty-four miles downstream from the boundary. The
22 thing that I wanted to point out here is although the
23 channel at the mouth is a single channel, in its entrance
24 into the river, there is an extensive area of braided
25 stream above this, which clearly show on the aerial photo-

graphs, they clearly show on the U.S.G.S. one inch to the mile. So that if you look at the mouth and take one set of measurements there and then move upstream, it begins to change. And this is the reason we have so many slides of--of the river in a relatively short distance. It has completely different character. This is at the head of one of the many braided streams. And during high run-off the channels frequently change. You can see old channels, where the water has run at different times, to the right, another one in the center where small streams have cut through. When the ice is coming out in the spring it frequently ac--acts--acts as a bulldozer and the ice will start running across the bars and gouge new channels. And this is how come the--the channels frequently change their location.

Q This is slide number thirteen. Could you tell us when and where it was taken and what it shows?

A Slide number thirteen was taken August 5. It shows a cabin in the upper right hand corner. You can see a small trail coming out. You can see the shadow of the helicopter. That trail is coming out of the photograph--out of the trees at the upper right hand corner. You can see the shadow of the helicopter in the upper left hand corner. The body of water that you're looking at is Threemile Creek. This is one of the cabins that

1 Mr. Brown testified that is supplied by boat on a regular
2 basis. I've talked to the individual at various times,
3 both on business and in recreation. And have seen him
4 on the river, also, with small canoes.

5 Q This is slide number fourteen. Could you tell us when
6 and where it was taken and what it shows?

7 A Slide number fourteen was taken on August 5. Excuse me,
8 August 4. It is approximately five and a half miles
9 from the mouth or approximately forty-two miles from
10 the downstream portion of the boundary. It shows one
11 of the rock outcrop rapids that were referred to by Mr.
12 Brown, in this stretch of river. It's about--in--in
13 this area, between five miles and the mouth, this is
14 the only prominent rock outcrop. Generally it's
15 straight gravel. There's a very steep bluff on the
16 left hand side of the river. You will notice the
17 very extensive sweepers and log jams against the left
18 bank, very shallow water on the right. I would point
19 out a seventeen foot canoe in the upper right hand corner.
20 There are two individuals with camping gear. There's
21 no evidence of a motor. They have come upstream five
22 miles from the Yukon River. This was taken August 5--4,
23 on the water levels that we'll talk here. So, they can
24 clearly get at least this far. We're looking downstream.

25 Q This is slide number fifteen. Could you tell us when

1 and where it was taken and what it shows?

2 A It was taken the same day and the same place and shows
3 a better perspective of the canoe, which I had pointed
4 out in the preceding slide. Their lightweight backpacking
5 tent, the two individuals, one standing, one bending over.
6 And their entire array of gear. They probably have less
7 than a hundred pounds of gear, I would estimate, between
8 the two of them there. That's purely an estimate. We
9 did not land, this was a helicopter shot. But small
10 canoe, there's nothing there, there's nothing packed
11 on the bank, that seems to be all of the gear. And they
12 have walked upstream. We saw, the preceding day, some
13 people lining in a couple of places. Now, whether this
14 is that group, I do not know. We saw three canoes, in
15 total, on the river during the time that we were here.
16 This is one of them. I'll point out where we saw the
17 others.

18 Q Were those three people you saw, was that during your
19 August '78 trip?

20 A That is correct.

21 Q Okay. Thank you. This is slide number sixteen. Could
22 you tell us when and where it was taken and what is
23 shows?

24 A This is one mile upstream from the log jam that we just
25 looked at in the rapids and where the place--where the

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1 people were camped. We're looking upstream, so the
2 point--the preceding slide was--is behind us and to
3 the left. Again, notice that the channel in this
4 particular place is completely blocked by trees. There
5 is very little water for downstream movement and very
6 little water for upstream movement at any depth in
7 this. If you were coming downstream, you would have
8 extreme difficulty in this point, at this water level.

9 Q This is slide number seventeen. Could you tell us when
10 and where it was taken and what it depicts?

11 A It was taken the same date, August 4. It shows the
12 same group of slides, from a different perspective (sic).
13 Showing that although this particular group of trees
14 are blocked all the way across here, coming all the way
15 down on the right hand bank for a distance of almost a
16 quarter of a mile, where the river is actively cut.
17 Trees are being deposited by floating downstream, and
18 also by undercutting the roots and dropping in. You'll
19 notice on the gravel bar series of streams ra--of trees
20 randomly located across the bar. Again, posing hazards
21 to navigation, even with higher water levels.

22 Q This is slide number eighteen. Could you tell us when
23 and where it was taken and what it shows?

24 A It is the same location, slightly downstream, the same
25 series of logs, looking at the end of them. You'll

1 notice the left hand bank shows a very large pile of
2 log jams. Again, talking about the fact that as you
3 raise the water level, all you're doing is moving your
4 obstructions, or your hazards, to different places, but
5 it does not reduce them in their entirety. Your deepest
6 channel coming upstream, and we are looking downstream,
7 the flow of water's from your left to your right, is--you
8 have a shallow bar coming across the river, at this
9 point, right on the bend. You have a shallow bar, coming
10 across a good portion of the river, but not in its
11 entirety. There is a deep channel of water along this
12 bank. There are, however, sweepers that get in the way.

13 Q Was this also taken on August 4th--

14 A Yes, it was.

15 Q --'78? Thank you. This is slide number nineteen. Could
16 you tell us when and where it was taken and what it shows?

17 A This was in the same general area, which is approximately
18 between six and seven miles upstream from the mouth of
19 the Yukon--the mouth of the Yukon. It just shows another
20 shallow bar with trees on--on the edge. There's a deep
21 channel, again, cutbank on this side, but you still end
22 up having to cross a shallow bar when you get out at the
23 end. And then the water bounces across and you have a
24 deep channel on the left hand bank. The flow of water
25 is from left to right.

1 Q This is slide number twenty. Could you tell us when
2 and where it was taken?

3 A This slide was taken August 4. It is nine miles from
4 the mouth or thirty-eight miles down--downstream boundary
5 of the selection. It shows shallow water, across here,
6 and a log jam. It shows a little bit of a rock or
7 log, and I'm not sure which in this photograph, that
8 is creating some white water. You will notice a light
9 green coloration on the gravel, on the left bank. This
10 is the same algae and was taken at the same time, same
11 day, as the slide that I pointed out to you at--on the
12 Nation River. Although both rivers are obviously low,
13 the Kandik, at the time we took this slide, was near
14 its normal water level. Using that same algae mark
15 as a bench mark, in this place, you can see the algae
16 is right at the water line. Where it was exposed a
17 few inches on the--at the mouth of Hard Luck Creek on
18 the Nation itself.

19 Q This is slide number twenty-one. Could you tell us when
20 and where it was taken and what it shows?

21 A It was taken August 4, 1978. We're ten miles from the
22 mouth and thirty-seven miles from the downstream boundary.
23 And it just shows, again, a series of shallow water.
24 Coming across the river there's a bar that's about a
25 total of a hundred and fifty feet long. There's another

1 bar down at the point where the river leaves one cutbank,
2 comes across, bounces off another cutbank. We're looking
3 downstream, the flow of water is from left to right.

4 Q This is slide number twenty-two. When and where was it
5 taken?

6 A This was taken at the same point, showing a closer
7 perspective of the upstream bar. The same point that
8 I was talking about earlier, going out where the water
9 left the right bank and came to the left bank, is in
10 the upper right hand corner. And this shows more
11 clearly the character of the bar itself. Again, cutting
12 obliquely entirely across the river. Not at right angles,
13 but in this case almost running down and parallel to
14 the actual flow of the drainage. In other words, it
15 comes from the left bank and runs straight across to a
16 gravel bar--excuse me, comes across from the right bank
17 to a gravel bar on the left bank.

18 Q This was also an August 4th photo?

19 A Correct.

20 Q This is slide number twenty-three. Could you tell us
21 when and where it was taken?

22 A This slide was taken August 4. It is eleven miles up-
23 stream from the mouth, thirty-six miles from the boundary.
24 And it shows just a mile further another rapid and shallow
25 area. A point gravel bar coming along the bank. You had

1 a definite channel through and off of the bar. You
2 probably have about two to three feet of water going
3 through the deepest part of this channel. In the
4 center it shallows out and you have about a foot of
5 water at the head of the rapids. And you can see the
6 head of it by the light color. This is where the water
7 is changing color, a result of flowing over shallow
8 gravel.

9 Q This is slide number twenty-four. Could you tell us
10 when and where it was taken and what it shows?

11 A This was taken August 4. It is eleven and a half miles
12 from the mouth of the Kandik River. Or thirty-six and
13 a half miles from the downstream selection of the
14 boundary. It is an aerial view of rod station number
15 one. And this is the gravel bar from the air. We
16 landed the helicopter near this group of trees and
17 then walked out. The next series of slides will be
18 of this area, which is in the center of the river. And
19 it shows a very long gravel bar, running, again, at right
20 angles and parallel to both the right and left bank.
21 The stream comes down the left bank, against the bluff,
22 and makes a sharp right turn across the boundary and
23 flows against the right bank. Did I say left bank?

24 MR. LUOMA: Yes.

25 A Alright. Flows against the right bank and downstream.

1 And you will notice that there is another set of parallel
2 bars on downstream. So that this is not an unusual
3 condition. I've showed you several other bars where
4 the general trend was downstream.

5 Q This is slide number twenty-five. Was it taken at the
6 same time and the same general location as slide twenty-
7 four?

8 A That is correct. And it shows the individual now wading
9 across this gravel bar, looking for the deepest point.
10 The gravel bar is estimated to be approximately a quarter
11 of a mile long. That is from high water to high water.
12 And, again, running parallel. It's width is approximately
13 thirty feet, from here to where you again begin to pick
14 up deeper water.

15 Q This is slide number twenty-six. Are we still at the
16 same date and location?

17 A We are. And, again, you'll notice a very characteristic--
18 this is a uniform bottom. You can see the size of the
19 pebbles, coming across here. This is an area which,
20 with any type of water craft, you would have to unload
21 it. Even a canoe. If you had anything in it, you would
22 have to unload it. E--even the modern fiberglass and
23 plastics are not recommended for dragging. And this
24 is definitely a dragging area. There's no defined
25 channel.

1 Q Alright. This is slide number twenty-seven.

2 A This is, again, a close up of the rod at rod station
3 one. Since the bottom was uniform, in its entirety,
4 across here, we took a single measurement at the
5 deepest point we could find across the bar. There was
6 an affective water depth of three-tenths of a foot.

7 Q This is slide number twenty-eight. Could you tell us
8 when and where it was taken and what it shows?

9 A We have now moved upstream to mile twenty from the
10 mouth. We're approximately twenty-seven miles from the
11 downstream portion of the selection. And it, again,
12 shows a series of bars across the center of the photo-
13 graph. You can see a bar running across the river on--
14 then the flow of the river itself is from left to right.
15 You--again, you have the cutbank, you have sweepers that
16 characteristically are developed when you get into a timber
17 cutbank. The river comes down along the photograph,
18 along the right bank, hits a gravel bar, cuts across,
19 and then the deep channel is on the left bank. It
20 proceeds along, again, with a series of sweepers.
21 Comes around a corner, cuts across to the right bank,
22 deep water. Coming on down, and it just--this is the
23 very typical situation for not only this, but all Interior
24 rivers. That--the river itself just bounces from one
25 bank to the other.

1 Q Was this photo also taken in August of this year?

2 A Yes, it was taken August 4, 1978.

3 Q This is slide number twenty-nine. Could you tell us
4 when and where it was taken and what it shows?

5 A That's taken in the same general location, approximately
6 twenty miles from the mouth. And it shows shallows,
7 log jams, which are developed during high water, trees
8 hanging in the shallows. It shows a well defined channel
9 along the left bank. And it shows a smaller channel
10 along the center. Both are separated by very wide
11 gravel bars. If you chose the channel on the left bank,
12 the current takes you into the cutbank and directly
13 into a log jam. If you miss that one, you have another
14 log jam and a projection to the left, and another log
15 jam and a projection to the left. The water that you
16 see in the upper left hand corner is a meander. The
17 river starts in the extreme upper left corner, comes
18 around through this loop, goes out of the photograph
19 to the left, and comes back in the photograph in the
20 lower left and then flows across the photograph in the
21 center and off onto the right. The general flow in the
22 center is from left to right. The photograph was August
23 4.

24 Q This is slide number thirty. Could you tell us when and
25 where it was taken and what it shows?

1 A That's taken at mile twenty-one, approximately twenty-
2 six miles downstream from the selection boundary and
3 shows a rather typical series of bars, with log jams
4 deposited on the bar itself. You can see, in this
5 case, a portion of the log jam hanging across the water
6 body. Another tree hung on a gravel bar in the center.
7 There is a very well defined channel, however, in this
8 case, where you've got about three and a half to four
9 feet of water going through the deepest part. And you
10 probably have at least two feet of water in this place.
11 This is just a shallow place. Your obstruction would be
12 the width of the channel. And you've probably got six
13 feet of water in this point. You do, however, have
14 another shallow bar down on the bend, coming across
15 from the gravel bar on the right hand--or the right
16 bank, across the gravel bar on the center. With high
17 water you can see that there's a definite channel that
18 develops along the left bank. The logs that are deposited
19 are in the center. You can see sweepers from proceeding
20 high water marks hanging on the edge of the left bank.
21 There are sweepers, also, on the right bank, in the
22 center of the photograph.

23 Q This is slide number thirty-one. Could you tell us when
24 and where it was taken and what it shows?

25 A This is taken August 4. It is twenty-three miles from the

1 mouth and twenty-three miles from the selection area.
2 It shows another shallow bar. In this case there is
3 not a well defined channel. The deepest water is
4 to the left of the large gravel bar, it's an island.
5 There are two points. There is a point immediately
6 here, which appears to have high--deep water, but there
7 is less than a foot of water in that point. The main
8 channel comes through the center of the bar. And you
9 can tell that it's the main channel by the fact that
10 it has a slightly darker blue con--color and the absence
11 of water bouncing off of rocks, which is what gives you
12 these little white splashes. It shows that that's the
13 primary channel. There's probably three feet of water
14 coming through that point. You have about six feet of
15 width across.

16 Q This is slide number thirty-two. Could you tell us when
17 and where it was taken and what it shows?

18 A This slide was taken at mile twenty-five, twenty-two
19 miles downstream from the boundary. It shows a blue
20 canoe upside-down on the bank. It was taken August
21 4, 1972. I had some camera problems in this general
22 area and this is the only good photograph I have. But
23 the individual, and it was a single person, was equipped
24 very comparably to the two people that we had seen down
25 below. In other words, very light weight, no heavy gear.

1 And whether it was somebody getting ready to go hunting
2 or somebody recreating, I don't know. But it was a
3 lightly loaded standard canoe.

4 Q I think you said this was taken August 4th, 1972--

5 A Excuse me, '78.

6 Q Thank you. Okay. This is slide number thirty-three.
7 Can you tell us when and where it was taken?

8 A This was taken August 4, 1978. It shows the exit of
9 Johnson Gorge. Johnson Gorge begins in this general
10 area. It's very--very difficult to tell precisely
11 where Johnson Gorge begins, because there are series
12 of bluffs on opposite sides of the river. And you can
13 say it begins here, but there's another bluff directly
14 under us, and so I--all I can say is this is the
15 approximate area. When I was hunting moose in 1975, in
16 this area, I came upstream to this point with my canoe
17 and a four horse motor. I had to, in doing that, walk
18 many times, because I did not have enough water to
19 run the motor itself. The motor took about a foot
20 and a half of water. Even when I started lifting it
21 up. There were two people in the canoe and we had
22 backpacking gear, so we had an estimated hundred and
23 fifty pounds. We were in there for a week and it was
24 all freeze-dried. The river itself was on a high cycle.
25 There was probably eight to ten inches of water more in

1 the channels than what you're seeing at this point.
2 And when I say channels I'm talking about this point.
3 The shallow bars, even where I could find enough water
4 to run it, the four horse didn't have enough power to
5 move a lightly loaded canoe upstream. It would take
6 a heavier motor. Again, that was without a lift. The--
7 I had to get out and walk several times, because the
8 channels came to bars where that if even though my
9 canoe would handle it, if for some reason the motor
10 stopped, I would of been swept backwards into log jams.
11 So the prudent thing was to get out and walk. We're
12 looking upstream and, again, at the exit of Johnson
13 Gorge. We're thirty miles from the mouth, approximately
14 seventeen miles from the downstream selection of the
15 boundary. It shows a shallow area coming across the
16 river, a bar. There's less than a foot of water at this
17 point coming across the river. There's another bar
18 at this point. From here on, however, there are a
19 combination of bars and rapids, except for that one
20 major area that I showed you earlier, with the rock
21 outcrop. Essentially gravel bars is the general
22 character. In Johnson Gorge we begin to pick up true
23 rapids. In other words, large boulders in the rock.
24 And we'll have some pictures of those in a minute.

25 Q Okay. This is--

1 MR. LUOMA: Is this as far up as you went on
2 your hunting trip?

3 A This is as far as I went up on my hunting trip. But--

4 MR. LUOMA: Did you get a moose?

5 A No. If I had gotten a moose, I would--it would of taken
6 two trips to have gotten it out. But--even going down-
7 stream, because I could not have gotten across several
8 of the bars that I've already shown you.

9 MR. LUOMA: But you would have brought the
10 moose downstream in--

11 A I would of brought the moose downstream.

12 MR. LUOMA: You say two trips?

13 A Yes. And during that trip, Your Honor, I saw several
14 people in jet boats that were up in the same general
15 area, lightly loaded, moose hunting. This was all
16 recreation use too.

17 MR. LUOMA: Thank you.

18 Q This is slide number thirty-four here. Could you tell
19 us when and where it was taken?

20 A This was taken at the same point as the last slide,
21 except I'm now looking downstream. And this shows the
22 other bluff. And this is why I say, I'm not really
23 sure where Johnson Gorge begins at this point or the
24 one upstream. But it's the general area. You'll see
25 another shallow area. There's about two feet of water,

1 except you're starting to pick up some rocks, which
2 are causing that white coloration in the center of the
3 small riffle, directly in the center of the photograph,
4 across from a small green group of trees on the large
5 gravel bar. The flow is from the bottom of the picture
6 out to the right. It was taken August 4.

7 Q This is slide number thirty-five. Could you tell us
8 when and where it was taken and what it shows?

9 A Yes, I can. It was taken in Gon--Johnson Gorge. There
10 was some discussions about fires previously. This is
11 a burn which occurred in the Kandik in 1971. It is,
12 in part, contributing to some of the logs that are in
13 the river. But a good portion of those logs actually
14 are coming when during high water the banks are erroded.
15 We're looking upstream, a well defined channel. Good
16 water through this area. There's a little bit of a
17 shallow, but really no serious obstruction to upstream
18 or downstream navigation in this particular area. You've
19 probably got maybe two feet of water consistently through
20 this area. And probably three to four feet in different
21 places. This particular type of condition lasts for
22 five or six miles at the most. But we are thirty-three
23 miles from the mouth and we've had to run through con-
24 siderable other things, if you were using a heavily
25 loaded boat to get to this kind of water.

1 Q Was this also taken in August of '78?

2 A Yes, it was.

3 Q Okay. This is slide number thirty-six. Can you tell
4 us when and where it was taken?

5 A It was taken in August of '78. It's--it's the same
6 general area, showing one of the connecting shallow
7 bars in-between those long stretches. In this case the
8 flow of water is to us, we're looking upstream. So the
9 flow comes from the upper right of the photograph, in
10 the center, and out to the lower left. There's a
11 long point bar coming across the river at the lower left.
12 There are, however, probably a foot and a half to two
13 feet of water through the main channel. This bar does
14 not run all the way across. In the center of the photo-
15 graph, however, in the upper right quadrant, on the bend
16 there is a bar which runs all the way across. In fact,
17 there's a series of about three bars. There's a small
18 one here and another one here.

19 Q This is slide number thirty-seven. Could you tell us
20 when and where it was taken?

21 A This was taken on--in September of 1972. Unfortunately
22 this was not my moose hunt. This was taken during the
23 time that we were conducting our wild river survey, we
24 didn't have firearms with us. The gentleman standing
25 is in a nineteen foot canoe and he's the Park's Service

1 representative. The BLM representative is in the front
2 and I'm paddling a lightly loaded seventeen foot canoe,
3 going downstream. We followed this particular moose
4 for quite some distance. That is not why I have the
5 picture in here. I did want to show you that when we
6 conducted our survey the water level was up. You can
7 see it right at the edge of the trees and the small
8 brush. And customarily, during the summer, you would
9 see, as we've seen earlier, the water to be down.
10 This, again, is the first week of September. It had
11 been raining and the water level, as I'd indicated on
12 the first series of slides, was up to about a foot to
13 a foot and a half at that point. During the time we
14 were on the river, which I think was four days, the
15 river also dropped just about that amount. So that
16 when we got back to the mouth--in fact, some of the
17 bars that I have shown you, I had to walk across with
18 this gear, in September of '72.

19 Q This is slide number thirty-eight. Could you tell us
20 when and where it was taken?

21 A We are at the entrance of Johnson Gorge. Johnson Gorge--
22 again, the last major bluff is at the right hand side
23 of the photograph. And it flows through a relatively
24 well confined channel for distances up to a half a
25 mile to three quarters of a mile. On the bends it

1 frequently breaks into small gravel bars, you've
2 seen several of those in this area. A long channel,
3 another bar. This is true rock rapids. And there are
4 several of these in the gorge area. This is not shallow
5 water, but there are large boulders, three to four feet
6 in size. You can see them on the bank. You can see
7 some--you can see the bed character in that last photo-
8 graph taken in September of '72, the size of the gravel
9 that you're looking at. They are eighteen to nineteen
10 inch cobbles, in general. And your boulders are much
11 larger. So that the long strings of water that you
12 see coming out in the bend, and there's a bar coming
13 across here, there's quite a bit of water actually
14 flowing, but you'll notice that there is no clear con-
15 cise channel. There's a rock almost at any point.
16 So coming upstream or downstream with a long boat--I
17 was navigating with a seventeen and a nineteen foot.
18 Let's say a thirty foot pole boot. You do begin to
19 run into, again, some problems, because you don't
20 have thirty feet in a straight line any place.

21 Q Did you say when this photograph was taken?

22 A It was taken August 5, 1978.

23 Q Thank you. Okay. This is slide number thirty-nine.
24 Could you tell us when and where it was taken and
25 what it shows?

1 A This shows an aerial view of rod station number nine.
2 We are just above Johnson Gorge. Rock Creek Pass, or
3 whatever it is, of which was as near as I could define,
4 probably comes through this general area. We're looking
5 downstream and through this saddle. May be the area.
6 If not that one, there's another saddle up into this
7 area. In the next series of slides we're going to land
8 and we took our measurements looking here and behind us
9 for rod station number two on the Kandik River. This is
10 an aerial view, we landed on the gravel bar approximately
11 here. You're looking downstream. The flow of water is
12 from your left to the right.

13 Q Excuse me. I think the first time you said this was
14 rod station number nine. Do you have these--

15 A Ex--no.

16 Q --these numbers from one on for each river?

17 A Excuse me. It's rod station number two, it's nine
18 miles from the downstream selection boundary.

19 Q Okay. Thank you. This is slide number forty. Could
20 you tell us when and where it was taken?

21 A This is an aerial view of the same area. The gravel
22 that we saw to the left in the preceding photograph
23 showed that there was a channel on both sides of a
24 large gravel bar in the center. The channel that
25 we measured is the channel immediately in the center,

1 the largest and widest channel. There are other channels,
2 but they all have different types of problems, if you
3 were trying to bring a boat up or down. So we tried to
4 find the best channel, the one that had the widest and
5 deepest water, to conduct our measurements on. This is
6 the channel and the next series of slides will show that
7 channel from the ground. Again, August 4, 1978. I'm
8 using different dates on several of these slides, even
9 though they're back to back. One reason is we were flying.
10 As you reme--remember I said that our--our camp that
11 we stayed at for the three days is upstream in the
12 selection area. Our fuel cache for the helicopter was
13 downstream at the mouth. And as a result, we flew back
14 and forth through the Kandik-Nation about five times
15 in the three days that we were there. Sometimes going
16 upstream and sometimes going downstream. And I was
17 taking pictures. And that's the reason that you have
18 sometimes, in this sequence, a photograph looking up-
19 stream and the next time a photograph looking downstream
20 in the exact same spot. This is one of those conditions.
21 I had a camera malfunction and we repeated our measure-
22 ments on August 4. I had it--I had the camera malfunction
23 in this area on August 4. We came back on August 5.
24 So I, in fact, got two sets of measurements. They were
25 identical.

1 Q This is slide number forty-one. Could you tell us
2 when and where it was taken?

3 A We've landed on the island. We're looking across rod
4 station number two on the Kandik River. We're thirty-
5 eight miles from the mouth and nine miles from the
6 selection boundary.

7 Q This is slide number forty-two. Could you tell us when
8 and where it was taken?

9 A This particular gravel bar was a total of a hundred
10 and fifty feet long and a hundred and fifty wide. There
11 were several defined channels, as I'd indicated in the
12 preceding area. And here the gentleman is standing in
13 the head of that deepest channel.

14 Q Are we still in the same--

15 A We're still in rod station number two, thirty-eight
16 miles from the mouth, nine miles from the selection
17 boundary. The photograph was taken August 5.

18 Q This is slide number forty-three. Are we at the same
19 location at the same time?

20 A No, we're at the same location. It's the day earlier.
21 I had my camera malfunction at this point and that's
22 why you see a different person holding the rod. I did--
23 the camera--I had reloaded the camera at this point and
24 I did not get a closeup of the rod. It, again, shows the
25 individual standing where we're getting ready to take our

1 measurements.

2 Q Okay. This is slide number forty-four. Was this taken
3 the following day, when your camera was working?

4 A Yes, it was. It's August 5 and it shows the measurement
5 on the rod as be--having an effective depth of water
6 of six-tenths of a foot.

7 Q Was that similar to the measurement you got the day
8 before, when you--

9 A It was--

10 Q --your camera wasn't working?

11 A It was identical.

12 Q This slide number forty-five. Was it taken at the same
13 location?

14 A Yes, it was, except we moved about three feet upstream,
15 because the lip of the bar was immediately behind us.
16 And, again, what I wanted to illustrate, you may have
17 relatively short distances of--of deep water, they almost
18 always--and this bar was particularly true, every one
19 of them--although you could find deep water at the lower
20 end of the bar, when you hit the top of it you consistently
21 ran into a place all the way across that river that was
22 three-tenths of a foot deep, give or take a tenth.

23 Q This is slide number forty-six. Could you tell us when
24 and where this was taken?

25 A Yes. This slide was taken by the group of BLM em--smoke

1 jumpers, on their own time, that parachuted in to the
2 river in 1974. It was written up--their exploits were
3 written up in the Alaska Magazine in 1976. And it
4 shows the trapper's cabin, which shows on the G.S. quads
5 at the head of Johnson Gorge. This is probably, and
6 I can only surmise, the cabin that would be supplied
7 by people coming in across Rock Creek. I personally
8 have been to this cabin three or four times, during the
9 times that I've been there. I just didn't have a good
10 photograph, which is why I used this one. This is the
11 cabin above Johnson Gorge. It's about a mile above
12 Johnson Gorge, at most. It's approximately nine miles
13 downstream. It's a rather typical trapping cabin. We
14 found no evidences of picks, mining gold pans, or things
15 of the nature that you would find in similar type cabins
16 immediately across the river.

17 Q Did you--

18 A Across the river, by this time, I mean the Yukon River.

19 Q Did you visit this cabin site on your '78 trip?

20 A I did not. But I was there in '72 several times.

21 Q But you haven't been there since '72?

22 A No, I have not been to this cabin since '72. This
23 photograph was taken in '74.

24 Q Okay. Thank you. This is slide number forty-seven.
25 Could you tell us when and where it was taken?

1 A We are at mile forty-five and five miles above the--or
2 five miles downstream from the downstream selection
3 boundary. We--this photograph was taken August 4,
4 1978. And it shows--again, as we've moved above Johnson
5 Gorge, we start picking up bedrock exposures. And we'll
6 pick up bedrock exposures characteristically every three
7 or four miles and it'll move back into solid gravel.
8 When you get your bedrocks you generally have a well
9 defined channel at some point in the area. You can
10 see how the water, as an example, comes over and bounces
11 off of the right bank, across, and had scoured a very
12 deep channel along the left side of the gravel bar. You
13 can also see how the gravel bar itself is much higher
14 than the gravel bar immediately upstream. This, again,
15 is indicative of the strong eddies that you would get,
16 the back currents, by the water coming against the right
17 bank, being shunted across to the left bank, and it
18 would characteristically gouge a deep hole. So that
19 if you were coming down through this area, you would
20 come on the right bank, on the right side of the
21 channel. You would have to, however, swing back and
22 come across onto the left bank. You could come down
23 to the center of the area and you'll see a rock pro-
24 jection coming out. There are--there's a good channel
25 through that area and back to the left. And then you

1 have to go to the right. The thing that this tells me,
2 from being on the river at different water levels and
3 coming down it by canoe, is that unless you can have
4 some degree of control, even in areas where you have
5 defined channels, it is not a straight chute. You have
6 to be able to maneuver your canoe. In others words, the
7 current would take you where you don't want to be. So
8 you have to have some control over your craft.

9 Q This is slide number forty-eight. Could you tell us when
10 and where it was taken and what it shows?

11 A It was taken August 4. We are looking upstream. We're
12 approximately two miles below the selection boundary
13 and forty-five miles from the mouth. The selection
14 boundary is not clearly defined in this photograph.
15 The next series wo--won't show the selection boundary,
16 but it's approximately through this--these mountains
17 up here. You do--this river, at this point, is not
18 depicted as being in the selection boundary. It, again,
19 shows a series of large gravel bars completely across
20 a braided channel, coming along the left bank, which is
21 a cutbank. It bounces off against the island in the
22 center, comes on down, comes back against the left
23 bank--excuse me, that's the right bank. Let me start
24 over again on this. It comes down the right bank, the
25 main channel, which is a cutbank, cuts across an old

1 meander channel, which is completely vegetated. And
2 you can see it wandering back through the background.
3 Comes along the cutbank and starts picking up some
4 sweepers. Comes down to the head of the island, bounces
5 out into the center of the channel, against the island,
6 swings back to the left, comes back against an old
7 meander channel, which has revegetated itself. Coming
8 along the right bank, comes across another gravel bar,
9 and bounces across the cutbank. Across the cutbank in
10 these areas you have three to four feet of water. You
11 have a foot and a half at most, in this area.

12 Q Okay. This is slide number forty-nine. Could you tell
13 us when and where it was taken and what it shows?

14 A Slide forty-nine is in the selection boundary. We are
15 one mile inside, approximately. We are at the bend of
16 a river, just downstream from where we camped. Here
17 large rocks are in the boulder--or in the bottom. These
18 are five to six feet in several places. You have
19 solid rock outcrops. And this is a large bluff. You're
20 looking down a bluff. These trees are not flat. You're
21 looking down on the river. The bluff at this point is
22 probably fifty to sixty feet high, in terms of perspective.
23 This is not flat terrain coming off to the right. It,
24 likewise, is not flat terrain going off to the left.
25 The river has a very well defined channel. You can see

1 a small area of white water coming along the right bank,
2 and coming on down the right bank, and then on out.

3 That--

4 Q This is--

5 A --photograph was taken August 5, if I did not say.

6 Q Okay. Thank you. This is slide number fifty. Could
7 you tell us when and where it was taken?

8 A We are closer to the area at which we camped. And it is
9 just a different perspective. These are much lar--larger
10 boulders and about a mile upstream from the last one.
11 Again you've got a total of four and a half feet of
12 water in the deepest spots. On the average, through
13 the center part of the photograph, you've got about three
14 feet of water. The important thing, however, is not the
15 depth, in this case, but the fact that you have no
16 clear channel at any place. The rocks are randomly
17 scattered across the channel. And you'll notice that
18 rocks are also randomly scattered completely across the
19 exposed gravel bar. These are largely bedrock. Some
20 of them are attached, not in place, to the--to the
21 foundation material. So that adding more water does
22 not remove any obstruction, as such. It, again, changes
23 the complexity. And although a rock like that might
24 be completely submerged, it creates eddies behind it,
25 which affect your boating safety, going downstream, if

1 you're not careful.

2 Q This is slide number fifty-one. Could you tell us when
3 and where it was taken?

4 A This slide was taken August 4. It shows the area at
5 which we camped at, which was on a dry meander channel.
6 Our camp is in the lower right hand side. The flow of
7 the river is from the bottom of the photograph, on the
8 right, to the left, out of the photograph, and around
9 the bluff. And the bluffs that I was talking about in
10 the preceding photograph are continuing around and out
11 of the left. The photograph--the last photograph of the
12 large boulders is just out of this photograph, on the left.
13 The G.S. conducted a flow measurement station across the
14 main channel in this approximate location. As I say,
15 we spent quite a bit of time in this general area. I
16 personally have hiked, waded, across this part of the
17 river. I've waded here. I waded down to about this
18 point. And then there's a bedrock outcrop at this point
19 which about five to six feet of water. I can cut back
20 on this side. There is, however, no more than about
21 two and a half feet of water from this point to this
22 point. There is less than two feet of water across
23 the channel at this point. The ra--current is fairly
24 rapid. If you added much more water, I would not
25 recommend trying to hike it. At the downstream portion

1 of the area measured by G.S. there's about a foot and
2 a half of water maximum, at the deepest point. The
3 channel, as you would reasonably expect, is against the
4 right bank of this island. And this is an island on
5 high water. It shows clearly on the photograph. It
6 also shows clearly on the U.S.G.S. one inch to the mile
7 maps.

8 Q Now is this in the selection area?

9 A This is in the selection area. It is fifty-one miles
10 from the mouth. And about a mile and a half inside
11 the selection boundary itself. We camped there August
12 3, 4, and 5 at that point.

13 Q Okay. This is slide number fifty-two. Could you tell
14 us when and where it was taken and what it shows?

15 A This shows a rock outcrop, above the selection area.
16 It was taken August, 1978. You'll notice that the
17 current has come along the left bank, which is very
18 steeply incised perma-frost. There is a large rock
19 outcrop, coming completely across the river at this
20 point. And you can see the white water, where it's
21 running across the ridge. There is a completely exposed,
22 at this time of water level, large almost dam coming out
23 a third of the way across the river. And logs sitting
24 on top of those. The water, at this point, is--you
25 probably could get through this channel, which is the

1 channel nearest the right bank, with a lightly loaded
2 canoe. You could not get up that channel, at this water
3 level, with a loaded canoe, without having to get out
4 of it. You--you couldn't handle it. And there's not
5 enough water to run a motor, even with a lift, on this
6 particular area. Adding more water is that you would
7 still have to bear further and further to the right.
8 We're outside the selection area approaching--or closer
9 to the Canadian boundary.

10 Q This is slide number fifty-three. Could you tell us
11 when and where this photograph was taken?

12 A This is the same general area. It's not the identical
13 rock outcrop, but it's very typical and similar to the
14 one that we'd seen in the preceding one. It shows
15 the August 24, 1972 water level. This was taken on
16 our overflight, preparatory to coming in later in
17 September and actually floating the river itself. The
18 flow of the river itself is--we're looking upstream,
19 so the water flows from the middle right hand side of
20 the slide, out of it, to the lower left. Again, a
21 large rock outcrop. There are several trees at right
22 angles to it. You can see some other trees hanging in
23 the water, or submerged on the water. A very defined
24 channel. A very deep pool. There's probably ten to
25 fifteen feet of water immediately downstream. And, again,

1 that's typical of anyplace where you have a large
2 obstruction, the water will scour out. A very old
3 meander channel. It's shown in the upper left hand
4 corner, where the river, at one time, had been over
5 there and it's cut--it's been some time since it's
6 been over there. Quite a number of years.

7 Q This is slide number fifty-four. Could you tell us when
8 and where it was taken?

9 A This was taken August 5, 1978. And it shows a typical
10 selection--or a typical portion of the river upstream
11 of the selection area, approaching--or going towards
12 the Canadian boundary. We are still below Indian Grave
13 Creek. And there--the river itself is confined into
14 a very well defined channel. You have deep water along
15 the right hand side--excuse me, left bank, flowing towards
16 us. But, again, rapids or bars and small boulders randomly
17 located in the center, completely across the river. There
18 were several other bars in the upper hand corner. This
19 is very typical of the area upstream of the selection
20 area.

21 Q This is slide number fifty-five. Could you tell us
22 when and where it was taken?

23 A Yes. This is immediately downstream from Big Sitdown
24 Creek. It is at the point that we took a G.S. flow
25 measurement station across the stream. It is a June

1 19, 1978 aerial photograph. The flow of the river itself
2 is from left to right. And the flow measurement station
3 is across here. The next series of slides will be the
4 same area, during the June--or during the August re-
5 measurement.

6 Q This is slide number fifty-six.

7 A We are now looking upstream towards Indian Grave Creek,
8 which comes out of this group of tall spruce on the
9 left bank and comes across a gravel bar. And you can
10 see a little bit of water coming across that gravel bar.
11 That's Indian Grave Creek itself. Excuse me, Big Sitdown
12 Creek, coming out of the, and across the, gravel bar to
13 the main channel, which is on the right bank at this
14 point. You will notice that that G.S. gauging station
15 is not measuring shallow water. They are measuring the
16 pool between shallow waters. There's shallow water here,
17 there's shallow water above that. They need a degree
18 of uniformity. And you can see the red tags to the right
19 hand side of the photograph and near the left bank, of
20 where they've stretched the line. So that their measure-
21 ments were entirely different than what I was--what I
22 was taking. And they have to have a--they have a different
23 set of location requirements. This was taken August of
24 '78. It's another view of the people wading across.
25 Again, this is a pool in-between rapids. There's one

1 to the right, one upstream. And you can see, again,
2 the size of some of the rocks which are in the stream
3 bed in this area. And it's very typical through the
4 selection area itself and down to the general vicinity
5 of Johnson Gorge. Below Johnson Gorge you don't
6 typically find this type of rock.

7 Q Okay. For the record, I'd like to say that the picture
8 of the people wading is labelled fi--slide number fifty-
9 seven. Okay. And this is slide number fifty-eight.
10 Could you tell us when and where it was taken?

11 A It is a closer view of the two G.S. people who were
12 conducting the August 4 measurements of the Kandik River .
13 at Big Sitdown Creek. It shows the equipment that they
14 were using. It's identical to what was used in August
15 and how their--you can see the tag line, the line that
16 had the red flags on it, going across the stream. It
17 shows the clarity of the water. Again, very low, in
18 relationship to the muddy water that we'd seen on the
19 prece--indicative of high water at that point. That
20 was the June--the preceding June aerial shot, which
21 was slide fifty-five, was seventy-six miles from the
22 mouth. Approximately thirteen miles above the selection
23 area.

24 Q Okay. Well, now I thought . . .

25 A I think that's it.

1 Q Okay. (Pause) Alright. Based on your experiences on
2 the Kandik River, can you try to summarize the conditions
3 on the Kandik, which in your opinion might hinder boat
4 travel on the Kandik River?

5 A The first thing would be the unpredictability of the
6 water level itself. It's a very flashy--it goes up
7 and down like a yo-yo, in reality. You get a heavy rain
8 and the headwaters, you know, come up a couple of feet,
9 in a short period of time, several days, or in a day.
10 And in the period of several days it will also drop back
11 down. So that if you're going upstream, you'd have to
12 hit your high water and you would have to be able to
13 get to wherever you're going within that period of
14 high water. So you've got a relatively short time to
15 get there. So unpredictability would be one thing. The
16 fact that this river is relatively small in comparison
17 to other rivers, like the Middle Fork of the Koyukuk or
18 the Fortymile, as an example, that the upstream movement
19 of equipment or power under high water conditions, that
20 if you have a malfunction of your motor, you have no
21 margin of error, because the current, in a very short
22 distance, bounces against one bank or the other. And
23 most of those have either sweepers or log jams. Both
24 the Fortymile and the Koyukuk are much bigger rivers,
25 if you have that type of a problem, you've got a better

1 chance of recovery. Here you have virtually none or
2 very small areas for recovery. If the water level is
3 high, all you've done is moved your obstructions from
4 one place to another. And by that I mean that you've
5 got sweepers that are hanging on the bars that aren't
6 there in low water, that suddenly you do have to contend
7 with. And as your water goes up, your velocity increases,
8 which means your downstream movement of the water is
9 increasing and you're moving faster.

10 Q Now, when you were testifying about the Nation River
11 you had made an estimate of the number of shallow
12 gravel bars that one would have to cross in going up-
13 stream or downstream. Have you made a similar estimate
14 on the Kandik River?

15 A Yes, I have.

16 Q Would you tell us what that is?

17 A Yes, there are approximately fifty-five shallow areas
18 between the mouth and Johnson Gorge. Between Johnson
19 Gorge and the selection area there were an additional
20 fifteen areas. And I did not count as obstructions,
21 as an example, several of the rock areas, where there
22 were deep channels. In other words, I was only looking
23 to areas where you really--if--if you didn't, you
24 know, under any condition, you'd probably have to get
25 out and pull a boat. So, I did not count areas where the

1 water was deep, although it would be--it'd require some
2 skill. I did not count that sort of thing.

3 Q Could you tell me what--I didn't understand what you
4 said when you said between Johnson's Gorge and the
5 selection area, how many--

6 A There's another fifteen and--

7 Q Fifteen.

8 A Yes. Johnson Gorge itself is where the river develops
9 a very consise deep channel. And there's quite a long
10 area of--of deep water in those areas, by only a few
11 sections of shallow water. Now, there are some difficulties
12 in those portions of the river where there's deep water,
13 but not serious ones. And if they weren't serious, I
14 didn't count them.

15 Q Okay. Could you explain what the--in comparing the Nation
16 to the Kandick what are the major differences between the
17 rivers? I know there's been a lot of testimony that
18 indicates there are certain conditions which are similar.
19 But can you identify the major characteristics that might
20 be used to differentiate between the two rivers?

21 A The Nation River is--in its entire length, could be
22 characterized as a braided stream. There are a few
23 areas where it bounces against a bluff and you have a
24 confined channel. But those are the exception, rather
25 than rule. It's to the Canadian border, which is--let's

1 see, on the Nation I need to refer back. It's . . . it's
2 approximately forty-seven miles to the--to the Canadian
3 border and there's not an awful lot of the drainage that's
4 in Canada. So it's a little bit smaller stream. As a
5 result it's much more sensitive to rainfall. In other
6 words, if the equivalent amount of rain in the Nation
7 will cause a different reaction, much more sharp reaction,
8 it would come up quicker and drop quicker, because it
9 has a smaller--smaller water shed, than will the Nation.
10 The Nation--or the Kandik. The Kandik is a much bigger
11 stream. It can be characterized as the lower twenty-
12 five to thirty miles being braided. Numerous log jams.
13 Again, realizing that there are sections where the river
14 is confined to defined channels. Again, tends to be
15 overall a braided stream. It is--typically has one
16 bank or another running through forests, which are
17 cut and are constantly dropping new trees in. Once you
18 get to the Johnson Gorge area, you got back into a
19 confined channel. You have a little bit deeper water
20 through the gorge. And when I say a little bit deeper,
21 you've probably got four to five feet of water in many--
22 many places, under even low-flow conditions. Above
23 Johnson Gorge you then go back into a short section to
24 braided. You get into the selection area, it comes
25 back into an area where there are hills on both sides.

1 The channel comes back together. You go immediately
2 upstream from the selection area and you go back into
3 braided area. So it's broken apart into rather distinct
4 braided, distinct channel, distinct braided, as opposed
5 to the Nation itself being almost entirely braided. You
6 know, it's overall.

7 Q Thank you. I've just got a couple of more questions.
8 Maybe more than a couple. Based on your positions at
9 the Bureau of Outdoor Recreation and the Bureau of Land
10 Management, are you familiar with the recognized mineral
11 potential of--of this area, the Nation and the Kandik
12 Basins?

13 A Yes, I am.

14 Q To your knowledge is there any recognized gold or hard
15 rock mineral potential in this area?

16 A No, there is not. The--the mineral and mineral values
17 Statewide has been a very significant issue in connection
18 with both the Native selection, State selections, and,
19 of course, the establishments of parks and refuges. As
20 a result of that type of controversy the Department of
21 Interior itself has devoted considerable effort at
22 identifying significant mineral values. Both hard rock,
23 oil, and gas, wherever they might be. The State has
24 done the same thing. The Native Corporations are doing
25 the same thing. And this last January industry presented

1 about seven days of testimony to the Senate Interior and
2 Insular Affairs or Senate Energy Committee Workshop on
3 mineral values throughout the State in direct relationship
4 to such areas as the Yukon-Kandik--or the Yukon-Charley
5 National River proposal, which is the downstream area.
6 The information--and I sat through those hearings in
7 their entirety. The information presi--presented by the
8 industry and the maps and the graphics show no hard rock
9 potential for this area. And I'm sure that if the
10 industry itself had felt that there was hard rock
11 potential, they would have talked about it. They did,
12 however, emphasis oil and gas. And, in fact, Doyon
13 has selected in the area. And I presume that the three
14 townships that we're talking about were selected for
15 oil and gas, rather than hard rock. I do know for a
16 fact that the three townships on the Black River, just
17 a few miles away, is that--is one of the areas which
18 was transferred to Doyon and they conducted an extensive
19 oil and gas drilling program.

20 Q Do you know of any recent exploration or development
21 along either the Nation or the Kandik Rivers in--in
22 those drainage basins?

23 A Say again.

24 Q Any recent development or exploration for minerals that's
25 taken place in the Nation or the Kandik drainage basins?

1 A I--I can only go by supposition. In '72, when we came
2 down the river in September, there were a series of
3 red flags located at points along the river bank, which--
4 and they had locations on them, station so and so, such
5 and such. I do not know who did that, but my guess is
6 that it was by the mineral industry in connection with
7 Doyon. But that's supposition on my part. I do not
8 know. There has been, to my knowledge, no request from
9 Doyon, who is the agent in selecting the lands, for
10 permission to use overland vehicles anyplace in the
11 area, to get into the area, with the exception of the
12 adjacent Black, where they did use--do oil and gas
13 explorations. So right now there's nothing in the--
14 in these two areas that I'm aware of, of--of--where
15 anything has been done as such.

16 Q Does the area where--where Doyon has done this exploration
17 does that show on this--is that close enough to these
18 rivers to show on this . . . map--

19 MR. LUOMA: B-Seventeen.

20 Q --that's marked B-Seventeen--no, B-Three?

21 MR. LUOMA: Sorry.

22 A Yes, it--it does.

23 Q Okay. Could you point out . . .

24 A I'm--I'm going by memory at this point. If I recall
25 correctly, it's the three townships, nine, ten, and eleven,

1 which are approximately here, in Section 28--or Range
2 28 East, Townships 9, 10, and 11. And I would defer
3 counsel to say whether that's the correct location.
4 And I'm going by memory at this point.

5 MS. TAYLOR: I don't know.

6 A It's in this--it's within twenty air miles of the two
7 basins, but not actually in the basins. It's across and
8 would be adjacent. What you have is you have the Kandik
9 and the Nation flowing south into the Yukon. Across
10 the divide you have the Black, which flows into the
11 Porcupine. So you've got a divide between the Porcupine
12 and the Yukon at this particular point.

13 Q And the oil exploration was between the are--the Black
14 and the Kandik Rivers, but on the Black drainage basin
15 and on . . .

16 A Yes. And that, to my knowledge, Doyon was negotiating
17 with the Department at the secretarial level to get--
18 expedite it's conveyance of these three townships,
19 so that they conduct--could conduct oil and gas
20 exploration.

21 Q Do you know if . . . Doyon or their contractors in the
22 oil and gas development that did take place in the
23 Black drainage basin, did they use rivers in the area
24 for transportation, either the Black or the Kandik?

25 A They did not.

1 Q How did they supply those regions, do you know?

2 A They brought their equipment into Circle, by road,
3 and moved it overland during the wintertime, down the
4 Yu--or up the Yukon to an area just outside the D-2
5 boundary, which does not show on this map. They then
6 had permission from the Bureau to go overland to cut
7 what trees were necessary to move inland to their areas,
8 where they moved in all of their fuel by cat-train,
9 to construct airstrips. And then they brought in the
10 oil drilling equipment and their camps by air. And
11 that was how they supplied it. And once they brought
12 in their equipment overland during the winter to build
13 airstrips.

14 Q Okay. Thank you. You've testified of the fact that you
15 have a lot of boating experience. Would you consider
16 yourself somewhat of an expert in travelling on Alaskan
17 Rivers by boat?

18 A Yes, I would. This is not only my profession, but it's
19 my hobby.

20 Q This may not be the most intelligent question, but could
21 you explain exactly what people are talking about when
22 they talk about such and such a boat has so much draft.
23 What does boat draft mean?

24 A It basically is the amount of water that it draws. In
25 other words, how deep does it sit in the water, how much

1 water's it take to float it, before it's stuck on the
2 bottom.

3 Q Okay. I'd like to show you what is marked as Exhibit
4 B, Number Eight. Now, I believe that Mike Brown
5 testified that the water mark on the side of this boat
6 was about eleven inches from the--well, from the bottom
7 of the boat. Would that mark be evidence of how low
8 the boat rides in the water?

9 A No, it would not.

10 Q Okay. Why not?

11 A Well, you typically get a water mark, when the water--
12 when the boat is sitting in the water and you don't
13 normally lea--and it has to be sitting for some length
14 of time to develop the algae on it, so that you would
15 get a water mark, when the river is--or when the boat
16 is sitting in the water empty. You don't typically
17 leave a boat loaded. So what you have is the amount of
18 water that that boat was occupying at the time it was
19 tied to the dock or the pier. Now, that, again, is--
20 I--I have not seen this boat, so I'm only going by--
21 if that is a water mark--

22 Q Um-hm.

23 A --then it would represent where that water sits--or
24 where the water comes up on the sides on that boat for
25 a great length of time. And if you--unless you're using

1 your boat all the time, which, again, is not the
2 typical pattern. You use it for a while, you carry your
3 load, and then it sits for a week or it sits for a day.
4 You use it again, it sits for a day, it's tied up during
5 the summer time. So this would tend, to me, to indicate
6 that it is the amount of water that that boat actually
7 drew when it was sitting in the water unloaded.

8 Q Unloaded. I think you've testified that you have ex-
9 perience with different types of boats with motors.
10 Have you used boats with both inboard and outboard motors?

11 A I have been in boats with inboard motors, jet boats on
12 the Snake River, as an example, in Idaho. My own boats
13 are all outboards.

14 Q You own a motor boat?

15 A I--I own several. As well as canoes, kayaks, and rafts.

16 Q Okay. If--if the propellor of a tunnel boat--were you
17 here during Mike Brown's testimony?

18 A Yes, I was.

19 Q Okay. Good. If the propellor of one of these tunnel
20 boats in--as the boat shown in Exhibit B-Eight, is
21 at least ten inches below the water line, on the boat,
22 would--would--does that mean that you could take that
23 boat safely over a gravel bar that you had ten inches
24 of water flowing over the bar?

25 A No.

1 MS. TAYLOR: Just--just a minute, Your Honor.
2 Could we clarify what type of boat we're talking about in
3 B-Eight?

4 Q Okay. (Pause) Do you remember what Mike Brown's
5 testimony was about this type of boat that's shown in
6 B-Eight? Was this the tunnel boat he was speaking of?

7 A I could not say that this is the tunnel boat. I know
8 what he was talking about, when he said a tunnel boat.
9 It was a thirty foot long boat with certain characteristics
10 and it had a--a groove up the center, with the dry shaft
11 protected. And as I understood what he was saying that
12 the prop was exposed to a degree. I think he said several
13 inches, but I don't, you know--whether B-Eight is, in
14 fact--

15 Q Can you--

16 A --that photograph, I don't know.

17 Q Can you see--

18 MS. TAYLOR: Your Honor, the witness is--is
19 not familiar with the type of boat. And he said that B-Eight--
20 I would object to his testifying as to how it would be used
21 on the river.

22 MR. LUOMA: Are you attempting to get testimony
23 as to the use of a tunnel boat, whether B-Eight is a tunnel
24 boat or not?

25 MS. NEVILLE: I think that I can establish that

1 B-Eight is a tunnel boat. And what I'm trying to--

2 MR. LUOMA: Well, why don't you just ask him
3 what--

4 MS. NEVILLE: Okay.

5 MR. LUOMA: He's knows what a tunnel boat is.

6 MS. NEVILLE: Yeah.

7 MR. LUOMA: Then ask him about a tunnel boat
8 and its crossing above.

9 Q (By Ms. Neville) I thought that's what I had done. If
10 you have a tunnel boat, similar to the type that Mike
11 Brown was speaking of, and you had a water marking about
12 ten inches above the bottom of that boat, does that
13 water marking indicate that you could safely take
14 that type of a boat over a gravel bar at a time when
15 you had ten inches of water flowing over the gravel bar?

16 A No, it would not. You would need several more inches
17 of water for two reasons. First of all, these gravel
18 bars generally have a drop, which means that the water
19 is flowing faster over the gravel bar. And with a longer
20 boat some of those gravel bars--at some point your
21 prop is going to be lower and your bow's going to be
22 higher, and vice versa. Also, since the water is
23 flowing faster downstream--and I'm assuming upstream
24 motion at this time, if you're going upstream, you have
25 to apply more power to get through the increased current

1 When you do that, you tend to sink just a little bit.
2 The boat--a little bit more, because when the prop--when
3 you apply more power to the prop, you surge--you give
4 a surge of power, or you apply more power, and that
5 gives a slight drop. Now, on a light boat, you can
6 drop it two or three feet. Now, I don't think that
7 dropped on this. This is a relatively heavy boat, it's
8 relatively long. So that if you--if--and I'm--I'm--
9 I have to qualify it this way, if the effective depth
10 of the tunnel boat is ten inches, and I don't really
11 care what--what the figure is, I'm just going to say
12 if it is ten inches--and by effective depth, I'm talking
13 about the amount of water that it actually draws from
14 that to the prop--the bottom of the prop. On either
15 the Kandik or the Nation you would need at least five
16 to six inches more water underneath it, if you were
17 going to run it on a regular basis. Because your prob-
18 ability of damaging the prop and breaking it is pretty
19 darn good. Because most of those gravel bars do not
20 have uniform characteristics. And all you have to do
21 is hit a log that's submerged, or hit one of the boulders,
22 someplace along the line. And you have to take that
23 into account, if you're going to do it on a regular basis.
24 Q Okay. Now, is--is it correct then to say that in a
25 boat like a tunnel boat you would want what--whatever

1 amount of water that boat draws, plus an extra six
2 inches as a margin for safety. Is that what you said?

3 A I'd say between four and six. But I think maybe there's
4 there's--may I extend on that a little bit or is that
5 permissible?

6 MR. LUOMA: Just try to answer the question.

7 A Okay. It's--it's--it's not really pertinent as to whether
8 it's a tunnel boat. What you're talking about is what
9 is the distance from the prop to the bottom.

10 Q Okay.

11 A And that is--in other words, I would give you the same
12 answer. I would want four inches of water minimum and
13 preferably six on my own boat, with my own motor, if it's
14 using a prop. And, you know, I don't care how far or
15 how high up out of the water you want to extend it, I'd
16 still want that much clearance for that prop. Because
17 if you break the prop or ding it off, you do one of
18 two things. You break it or you lose your power.
19 Because as you grind it down, you don't have the power
20 to get upstream. And both of these rivers, under high
21 water, are ones where you're going to need maximum power.

22 MR. LUOMA: So I can understand it, you want
23 four inches--at least four inches between the bottom of the
24 prop and the bed of the stream?

25 A On these two rivers.

1 MS. NEVILLE: Your Honor, could we take a
2 recess now?

3 MR. LUOMA: I guess it's about time. Take a--

4 MS. NEVILLE: Thank you.

5 MR. LUOMA: --ten minute recess.

6 (OFF THE RECORD)

7 (ON THE RECORD)

8 Q (By Ms. Neville) Mr. Tileston, if you wanted to use
9 a tunnel boat, similar to that this is shown in Exhibit
10 B-Eight, to transport a cargo upstream, can you tell me
11 how much effective water depth you would want to safely
12 travel across gravel bars?

13 A Yes. I think we need to start, first of all, with
14 the water line. So it shows we've got eleven inches.
15 If I recall correctly, it's eleven inches. That is,
16 the distance to the bottom of the boat. You've got an-
17 other two inches for the prop, for that part which is
18 extended. You would have to load the boat. Since this
19 is a motor boat, one of your first heavy items that
20 you're going to have to carry is your fuel. If you're
21 leaving, let's say Eagle, or for that matter, Circle,
22 to get to the area, you'd have probably two to three
23 fifty-five gallon drums of fuel that would be in your
24 boat. You might off-load one of those at the mouth, but
25 you'd probably go upstream, because you're going to need

1 fuel for coming back downstream. You would not bring
2 a boat that size down, without having power. Or the
3 capability of using power. So you're going to need
4 fuel and you'd have to subtract that from your total
5 load. You've got yourself, your personal gear. If
6 we're talking Pre-Statehood Act, you're talking the
7 time where you probably had a couple of dogs and this
8 sort of thing. I'm not even going to conjecture what
9 else you would have in the--in the boat. But you'd
10 have fuel, at least one individual, probably two.
11 And then your cargo. And let's say that you've got
12 a total of, for whatever reason, two thousand pounds
13 total. Everything that's in there. That's probably
14 going to sink your boat another five to six inches
15 down. Because the design of the boat was slanted.
16 Which means that you don't get the same carrying capacity.
17 It was a slanted boat, with--narrower at the bottom than
18 it was at the top. So you've now got eleven, plus two,
19 plus, let's say five . . . to the bottom of your prop,
20 loaded. You would then want some clearance between that
21 prop and the bottom. And let's say four to five inches
22 maximum. But you'd still want at least that much.
23 But there's another kicker in this. And that is, because
24 you're going to have to apply your power to the maximum
25 extent in those shallow areas, because that will be the

1 very point where the current will be swiftest, you're
2 going to have to add probably another two inches to that
3 Because your boat will tend to sink slightly at the
4 bottom--or at the stern, as a result of app--applying
5 maximum power to the screw. So that gives you eleven,
6 two, five for the load . . . let's say four to five
7 for a cushion, and another two on that, because you're
8 going to apply your--your area. You would have to have
9 fuel coming downstream. You wouldn't have the problem,
10 in terms of depth, coming downstream, but you have a--
11 another factor that enters into it, when you're bringing
12 a boat that size, thirty feet. And if I recall, it was
13 five to six feet wide at the--at the top, when you're
14 coming downstream. Again, if the current is still swift.
15 And presumably you'd try to plan it so you were. You have
16 to have power, because that's the only way you're going
17 to be able to maneuver that size a boat. And I would--
18 you know, just looking at the photograph, this looks
19 like it's wood. I think somebody mentioned some--some of
20 them had tar on it. This is a very heavy boat. It is
21 not something that you can just pick up and, you know,
22 lift across a bar. It--it--it, in of itself--and that's
23 evidenced by the fact that it's got eleven inches of
24 water on it, probably empty. It--it sits quite low, which
25 is indicative of the weight of the boat itself.

1 Q Okay. So would it be fair to say that you would want
2 to have at least twenty-four to twenty-five inches of
3 effective water depth before you'd take a fully loaded
4 boat of that type upstream?

5 A With any great degree of regularity. I might do it
6 for one trip, with le--

7 MR. LUOMA: Is her arithmetic correct on
8 that? You added--you stated certain figures.

9 Q Okay I--

10 MR. LUOMA: Do they add up to twenty-five
11 inches?

12 Q I've added eleven inches, that's the boat empty. Two
13 inches for the propellor. Five inches for the cargo.
14 About eighteen inches there. I think you added two
15 inches for the fact that your--when you turn the motor
16 on you said the stern would sink, or something of that
17 nature. And then four to five inches of clearance. Is
18 that correct?

19 A Yes.

20 MR. LUOMA: I want to ask the witness some-
21 thing.

22 Q Okay.

23 MR. LUOMA: Is--is twenty--twenty-five inches
24 the correct total of what you have testified to?

25 A Yes.

1 MS. NEVILLE: I have no further questions.

2 MR. LUOMA: Miss Taylor.

3 MS. TAYLOR: Thank you.

4 BY MS. TAYLOR:

5 Q Mr. Tileston, first of all, I want to congratulate you
6 on your stamina and the clarity of your testimony. And--
7 and it's a lot of area for us to--to even touch. And
8 if I ask you a question and your--and your unclear as
9 to what I'm referring to, I wish you'd please ask me
10 to clarify it and I'll try--I'll try to. Let's go back
11 to your prior experience, before your present position
12 as Chief of Division of Resources. I understand that--
13 that before your--your present job you were with the
14 Bureau of Outdoor Recreation--

15 A Yes.

16 Q --is that correct? And that's in Alaska?

17 A Alaska, Washington, D.C.--

18 Q Okay.

19 A --Denver, Colorado.

20 Q How long were you with the Bureau of Outdoor Recreation
21 here in Alaska?

22 A I came up in May of 1972 as the leader of a five group
23 party.

24 Q Okay. At what point did you switch from BOR, Bureau
25 of Outdoor Recreation, to BLM?

- 1 A 1974.
- 2 Q Okay. Now, was your trip up the Kandik River in 1972
- 3 part of your official duties with BOR?
- 4 A All of my trips . . . up the Kandik, when I was with
- 5 BOR, in overflights or anything else, was on official
- 6 duty.
- 7 Q Okay.
- 8 A The moose hunting trip was in '75.
- 9 Q Alright.
- 10 A And that was recreation at that point. I was working
- 11 for the Bureau of Land Management.
- 12 Q Alright. So if I--if I understand you correctly, when
- 13 we're talking about the Kandik River, you made one trip
- 14 up by canoe in 1972 for BOR?
- 15 A No, I made one trip down. We--
- 16 Q Down. I'm sorry.
- 17 A --helicoptered into the headwaters and came downstream.
- 18 Q In 1972?
- 19 A Correct. September.
- 20 Q And then you made a trip just this last summer, in
- 21 1978, by helicopter?
- 22 A You me--are you talking times when I've been on the
- 23 river, as opposed to over the river?
- 24 Q Yes, right. How many times have you been on the river
- 25 as part of your official duties?

1 A Physically on the river?

2 Q Right.

3 A The Kandik?

4 Q Right. Just the Kandik.

5 A '72, '78. Officially on the river.

6 Q Okay. Now, the slides that we've seen of the Kandik
7 River, this morning, are from those 1972 and those 1978
8 trips then?

9 A Right.

10 Q Okay. When you were with BOR and you were studying the
11 Kandik River, why were you studying the river?

12 A I was conducting a Statewide inventory, analysis,
13 evaluation of free-flowing streams in the State of
14 Alaska. We conducted something like ten thousand miles
15 of survey in that first month and a half, by air. We
16 talked to people. We, in turn, boiled it back down
17 and selected it. And Kandik was one of the rivers that
18 had--based on the aerial observations and rather distinctiv
19 and unique characteristics and--(indiscernible--simultan-
20 eous conversation)--

21 Q So the purposes of your study of the Kandik in 1972 were
22 primarily for inclusion in the wild--in Wild and Scenic
23 River proposal, is that correct?

24 A Yes.

25 Q What are the criteria for inclusion in Wild and Scenic

1 River area?

2 A It is a free-flowing stream having, essentially, an
3 untrammelled characteristic that is outstanding remarkable,
4 if I remember the statutory language, in it's scenery,
5 histroy, archaeology, cultural, recreation, fish and
6 wild life, or other similar matters.

7 Q In your trip in 1972, did you boat down the section of
8 the Kandik that's within the selection area?

9 A I put in in Canada. So I came all the way down to the
10 mouth.

11 Q Okay. Fine. Now, the selection area that we're talking
12 about today is within lands that are withdrawn for
13 selection by Doyon, Limited, the native corporation, is
14 that correct?

15 A Yes.

16 Q Alright. And they're not subject for inclusion in
17 Wild and Scenic River area, unless they're not selected
18 by Doyon?

19 A That's not correct.

20 Q Alright. Can you explain why that's not correct?

21 A Doyon, or the State--the--the Wild and Scenic River
22 system is an odd-ball situation in most areas, in the
23 fact that Federal ownership is not a criteria for
24 inclusion in the system. The criteria includes two
25 types of rivers. One, a Federal, where the ownership

1 is Federal. And the second one is where is the ownership
2 is non-Federal and the statute--the per--that national
3 legislation provides for non-Federal rivers to be
4 included, when several conditions exist. Those con-
5 ditions are the governor of the state concerned requests
6 the Secretary of Interior to include the river. Two,
7 the state has passed enabling legislation--state has
8 passed enabling legislation, which provides reasonable
9 guarantees that the land would be man--the--the land
10 and it's immediate environment of the river would be
11 managed in accord with a system which protects the
12 value. So, yes, it could be included in the system,
13 if Doyon so requested, if the governor so requested,
14 and the secretary--

15 Q Right.

16 A --certified.

17 Q Okay. If Doyon selects the--if Doyon selects those
18 townships of land, though, which it has in this case,
19 and doesn't request that the riverbed be included in
20 the Wild and Scenic River area, then it couldn't be--

21 A It would be very unlikely that the State legislature
22 would pass a State Law at the wishes of Doyon. That's
23 supposition on my part.

24 Q Alright. So the area that we're talking about is what
25 is going to be private land, is this correct? The selectio

1 area?

2 A If Doyon selects it, correct. If I recall--

3 Q Well, Doyon has selected it, right?

4 A They have selected it.

5 Q As a matter of fact, we've had a decision for interim
6 conveyance to Doyon.

7 A Except for the pieces that we're talking about.

8 Q Well, we're talking about two townships.

9 A Well, we're talking specifically about the river itself,
10 is my understanding. And if the river--

11 Q Let's talk about the selection area, first.

12 A Okay.

13 Q Okay.

14 MR. LUOMA: Let's see what the--what counsel
15 is talking about.

16 A Okay.

17 Q Let's--you know, let's just clari--clarify the land
18 steps (ph) that we're talking about. On Exhibit B-Three
19 we have an area of three townships, which we're all
20 referred to as the selection area, is that your under-
21 standing of it?

22 A Yes.

23 Q Okay. Now, as a matter of fact, the rivers that we're
24 talking about only flow through two townships within
25 the selection area.

1 A Correct.

2 Q But for clarity let's just call it the selection area.

3 A Okay.

4 Q Now, you testified that as part of your duties with
5 BLM you were involved in land conveyances, is that
6 correct?

7 A Yes.

8 Q And you are generally familiar with the provisions of
9 the Alaska Native Claims Settlement Act, is that correct?

10 A Yes.

11 Q Alright. Now, what's the affect of an interim conveyance
12 of land to a native corporation?

13 A For those portions of the three townships that we are
14 discussing called the native selection lands, those are
15 now private lands. For the pieces of those townships
16 which are the subject of this hearing, the status remains
17 to be determined.

18 Q Now, wait a minute. Let's get this clear. Are you
19 familiar with the decision for interim conveyance in
20 this particular case?

21 A Yes.

22 Q And doesn't it convey the entire three townships to
23 Doyon?

24 A No.

25 Q Can I hand you a copy--

1 A Ye--yes, I--excuse me--

2 Q --of the decision--

3 A --excuse me, yes it does.

4 Q --for interim conveyance?

5 A Yes, it does. It conveys the three townships--

6 Q Okay.

7 A --to Doyon. Doyon has appeal the navigability, if it's
8 navigable, the State has it.

9 Q Okay. Would you--would it help you to look at the
10 decision for intermin conveyance to refresh your memory?

11 A It probably would be helpful.

12 MS. TAYLOR: This is the decision for interim
13 conveyance, Your Honor. It's dated December 5th, 1975 and
14 it's part of the record, obviously.

15 A Yes.

16 Q Okay.

17 A Right. I--I--I mixed my apples and oranges.

18 Q Alright. Now, so as far as the selection area, the
19 entire area is to be conveyed to Doyon, Limited, is
20 that correct?

21 A Well, I'm not sure what you're driving at, because the
22 answer is correct yes and correct no.

23 Q Alright. The decision states that these three townships,
24 all--

25 A Right.

1 Q --are approved for conveyance to Doyon.

2 A Correct.

3 Q Now, normally what happens then is that at some point
4 presumably after the termination of an appeal, if any,
5 there's a document called an intermin conveyance issued--

6 A Um-hm.

7 Q --by the United States, is that correct?

8 A Yes.

9 Q Now--and it's true that an interim conveyance is--is,
10 in effect--

11 A A patent.

12 Q --a patent, it's--it's--

13 A Correct.

14 Q --you own the land. It just hasn't been formally surveyed,
15 which will happen at some future point in time--

16 A Correct.

17 Q --is that correct? Alright. Now . . . as part of this
18 decision for interim conveyance BLM also includes
19 recommendations for easements, is that correct?

20 A Yes.

21 Q On the selective lands. And there were--were recommenda-
22 tions made in this particular case--

23 A Yes.

24 Q --for easements? As part of your duties either with
25 BOR or with BLM were you involved at all in that ease-

1 ment identification process?

2 A Yes, I was.

3 Q Can you explain what your involvement with that process
4 was?

5 A Yes, I can. In 1974, when I first came to the BLM,
6 from BOR, my principal job was to evaluate transportation
7 requirements on a Statewide basis for the--at the time,
8 the secretary's direction, to determine whether and when
9 and under what conditions transportation corridors might
10 be reserved, through the particular selection area
11 that we're talking about. There was a oil and gas
12 pipeline identified, which was based on work that I
13 had personally been responsible for. That particular
14 line was based, again, on a routing identified by the
15 Alaskan Arctic Gas Company, on official filing with the
16 Department of Interior. And that was undergoing litiga-
17 tion, as to what route would be selected. And therefore
18 there was a withdrawal through the lower portion, and
19 I'm going by memory at this point from inspecting the
20 maps yesterday through the lower portion of the
21 boundary selection. And then there was a pipeline and
22 a road provision, which was qualified, that came up the
23 Kandik and Nation to the selection area, since it's an
24 oil and gas promise. And I had some doing with that.
25 It's based on work that I had done earlier on a Statewide

1 basis. I did not personally get involved in the easement
2 task force deliberations, but I had generated some of
3 those informations. Likewise, the 1972 report, which
4 I had prepared as leader of the BOR group, which had
5 been provided the State and Doyon, was in part considered
6 by that group, which I was not a member of, in their
7 navigability determination.

8 Q Now, was the easement task force still operating after
9 you became Chief of Division of Resources at BLM?

10 A Yes, it was.

11 Q Okay. And how long was it continued to operated?

12 A (Pause) I'm not sure that is still in operation as such,
13 as a result of the reorganization that took place in the
14 six months. There are people that are handling easments
15 Those people are no loner part of my staff.

16 Q Do you know who was on the easement task force for this
17 particular selection area, these three townships?

18 A I could not give you an accurate answer, without being
19 back and looking at the records. And it--

20 Q Okay. Did you, yourself, ha--ever have an opportunity
21 to comment on the proposed easements for this selection
22 are, these three townships, that were proposed by BLM?

23 A Well, I, of course, cerning (ph) the correspondence,
24 going out as division chief. I do not recall being
25 directly involved in the deliberations of the group.

1 Now, again, I'm going by memory. My recollection is
2 I was not personally involved when the people met in
3 the room and said, "this is what we're--think we ought
4 to do and why". I did, however, cerning (ph) the
5 correspondence, when it came out.

6 Q Alright.

7 A So it depends on what you mean.

8 A Alright. Do you recall what the Bureau of Outdoor
9 Recommen--of Outdoor Recreations recommendations for
10 easements were--

11 A No. And I wouldn't have seen it.

12 Q --on the selection area?

13 A Unless I was a direct party to the--

14 Q Okay. Fine.

15 A --task force.

16 Q But the easement task force was primarily concerned
17 with the identification of easements in the--

18 A And navigability.

19 Q What types of studies did they do concerning navigability?

20 A I could not tell you in this case.

21 Q Alright.

22 A Again, I was not party to the group.

23 Q Well, let's--maybe we should get clarified what your--
24 what your present role is in--in BLM. What's the rela-
25 tionship between your division, the Division of Resources.

1 and the Branch of Lands and Mineral Operations, for
2 example?

3 A The Branch of Lands and Minerals Operation is a co-equal
4 branch.

5 Q Okay. You're two separate--

6 A Within--

7 Q --branches?

8 A Well, they are a branch within another division, the
9 Division of Technical Services.

10 Q Okay. Which branch has primary responsibility for the
11 issuance of a decision for interim conveyance?

12 A Tech Services.

13 Q And that's the one that has Lands and Mineral Operations--

14 A Correct.

15 Q --under it? Okay. What involvement, then, do you have
16 with land conveyances?

17 A The application of uniform policy and standards.

18 Q What does that mean?

19 A Okay. In other words, somebody on my staff says, "yeah,
20 that's the way to approach it, that's consistent with
21 the guidelines laid down from the secretary, and that
22 this district is approaching those guidelines in
23 exactly the same way that the Anchorage district has
24 appro"--

25 Q Okay.

1 A --or vice versa, from that standpoint.

2 Q Do you attempt then, as part of your job, to implement
3 the regulations that are in turn designed to implement
4 ANCSA?

5 A It was.

6 Q Alright. You would--you would have tried to follow the
7 regulations?

8 A At--yes, at the point this was here, yes.

9 Q Okay. Are you--

10 A I'm no longer involved in that. ANCSA regulations have
11 been pulled out completely.

12 Q And when was that?

13 A In the last six months.

14 Q Okay. So during 1975, '76, for example, you would
15 still be concerned with--

16 A Yes.

17 Q --making sure that the department follows--

18 A It was done by people under--in my branch, in terms
19 of that.

20 Q Alright. Are you familiar with the regulations governing
21 navigable waters and conveyance of lands underlying
22 navigable waters?

23 A Only generally. I'd have to sit down and refresh myself
24 specifically.

25 Q Okay. Under those regs isn't the selecting corporation

1 required to accept lands under non-navigable waters?

2 A If you asking me, do I know that personally, I can
3 not--I would assume so, but I'd have to read the regs--

4 Q Okay. Fine.

5 A --to be sure. That's--that's--that's why I say, I'd
6 have to sit down and read them.

7 Q Are you aware of any formal notice of navigability ever
8 being sent to the regional corporation or the State by
9 BLM?

10 A Yes.

11 Q And when was that notice and what was it?

12 A That was the interim--interim decision to convey.

13 Q Was there any notice of non-navigability sent to the
14 regional corporation before that decision for interim
15 conveyance?

16 A If I recall the situation, and again I'm going by memory
17 there was a request by Doyon of the secretary to greatly
18 expedite conveyances of these groups of township. Not
19 only these three, but the three preceding, because the
20 oil and gas equipment was ready to go, the money was
21 being paid, and they needed to get title to the land.

22 Q Well, just answer the question.

23 A Do I know personally?

24 Q Was there ever any--was there ever any formal notice
25 of navigability sent out--

1 A I--

2 Q --to the regional corporation?

3 A --I don't know.

4 Q Okay. Now, was it the Bureau of Recreations opinion
5 in--while you were there in--in 1972 or 1973 or to what-
6 ever point in 1974, that the Kandik and the Nation--
7 that the Kandik River received recrea--heavy recreational
8 use?

9 A Not heavy.

10 Q What was their recommendation? What was their opinion
11 as to recreational use on it?

12 A It received very light recreation and very sparse.

13 Q Alright. What was the--

14 A We only found one evidence. Now, this is pre-'72.

15 Q Okay.

16 A One indication where anybody had really been using it
17 for recreation, other than the sport hunter.

18 Q Alright. Let's move up to 1975, when you were with
19 BLM and--in the Division of Resources. What was the
20 ultimate decision by BLM as to easements on the rivers
21 in the selection area?

22 A I'm--I'm not sure I know what you're getting at.

23 Q Alright. Were recreational easements reserved on these
24 rivers, do you recall?

25 A I don't believe they were, but I do not recall.

1 Q Okay. Have you--did you ever see the decision for
2 interim conveyance as part of your--

3 A Yes, as I said--

4 Q --duties?

5 A --said earlier, I--I reviewed it and I--as I say, I
6 can not recall specifically whether there was--

7 Q Okay.

8 A --a recreation easement.

9 Q Did you have any input into that decision before it was
10 made?

11 A I think I answer that question earlier. And the answer
12 was, I had no direct input.

13 Q Okay. Alright. Now, have you ever taken a boat up the
14 Kandik River to the selection area?

15 A No.

16 Q Alright. Your--your only boat trip up the--or down--up
17 the Kandik, let's state going up, is the 1972 trip in the
18 canoe, is that right?

19 A '75.

20 Q '75 trip. That's your moose hunting trip?

21 A Right.

22 Q Okay. Now, the 1978 trip, the one we just--you just
23 had last summer, that most of the slides come from,
24 who--who authorized that trip?

25 A I guess I did.

1 Q Did you plan it?

2 A What--what do you mean did I plan it?

3 Q Were you the one responsible for--did you initiate the
4 trip?

5 A Well, alright, aga--I--I'm not sure, again, and I'm
6 try--trying to be responsive, so bear with me a minute.
7 No, I didn't initia--initiate the trip, because the
8 scar--hearing schedule initiated the trip.

9 Q Okay. Who made the decision to send BLM personnel up
10 the Kandik River in August 1978?

11 A '78?

12 Q Yes.

13 A I did.

14 Q Okay. When did you make that decision?

15 A In June.

16 Q Okay. And what was the purpose of your trip up the
17 Kandik in 1978?

18 A To get measurements of the flow. And why I said June
19 is because when we were on both rivers in June we were
20 seeing it high water conditions. And what we wanted to
21 get were evidences to present to the Judge, which would
22 give him both sides of the coin. So we--since we took
23 high water measurements in June, we wanted to go back
24 in August and get low water measurements.

25 Q Alright.

1 A And that's the reason I said that we made the decision
2 to go back in August in June, because we knew that the
3 water was like then, we wanted to get the other side
4 of the coin also.

5 Q Had BLM sent any personnel on a comparable trip prior
6 to 1978, up the Kandik?

7 A A comparable trip, no. As far as I know--

8 Q How about--

9 A --this is the first navigability issue that we've had
10 come up.

11 Q How about up the Nation River? Did BLM ever send any
12 personnel up the Nation River, prior to 1978, to make--
13 to make measurements of the flow?

14 A Not to my knowledge.

15 Q Okay.

16 A Now, you're precisely asking the question, did we take
17 measurements, no; had people been up the river, yes.

18 Q Alright. Did BLM send any people up the Kandik River
19 prior to 1978 to make a formal field investigation
20 of the river?

21 A I'm sure there were, but I can not say so from my personal
22 knowledge.

23 Q Okay. So you wouldn't know whether any BLM personnel
24 had actually been on the river in the selection area
25 prior to 1978, on formal investigation of field conditions?

1 A I can't testify one way or the other. All I can say is
2 I don't know.

3 Q You don't know? Alright. Now, in the June of 1978
4 trip I understand that you were along with the hydrologist
5 who was making flow measurements, is that correct?

6 A Correct.

7 Q Alright. Now, I'm a little confused about what your
8 method of travel was--

9 A Raft.

10 Q --and again, on--on the Kandik?

11 A Oh, we took the--on the Kandik the flow measurements
12 were taken at Big Sitdown Creek and the access was
13 by helicopter.

14 Q Alright.

15 A We ran the Nation by raft, access was by helicopter.

16 Q Alright. Now, where's Big Sitdown Creek on the Kandik?

17 A It's above the selection area. Do you want to know
18 precisely?

19 Q No, I think that's adequate.

20 A Okay.

21 Q Now, I understand that you flew up then, above the
22 selection area, in a helicopter. And then what did you
23 do?

24 A Took a--

25 Q On the Kandik.

1 A --cross section.

2 Q Alright. And then you moved down the river?

3 A No, we came back to camp, because it was evening.

4 Q And where was your camp?

5 A On the Nation, at Jungle Creek.

6 Q And this was the June trip?

7 A Yes.

8 Q Alright. So in the June trip, when you were measuring
9 the flow you camped on the Nation River, flew to the
10 Kandik to make a measurement--

11 A And we reversed the process--

12 Q --and then flew back?

13 A --in August.

14 Q Alright. Now, did you make any water measurements on
15 the Kandik in the selection area in June?

16 A No.

17 Q Why was that?

18 A Because the water was too high, we had--and I don't
19 mean too high in terms that we did not want to collect
20 information. Basically it was a matter of time and
21 weather, because it had continued to rain and we pulled
22 out after coming down--see, originally the schedule was
23 as follows, fly--overfly the area, which we did. And
24 we overflew all three area. We came--and that was in
25 a fixed-wing aircraft. We came back to Eagle, we

1 picked up our helicopter, we flew in and set up a base
2 camp. We went over and took our one measurement. We
3 inflated the rafts, we went down the Hard Luck Creek,
4 it took three days. During that period it continued
5 to rain, it took us longer than we had anticipated,
6 and the ra--water level was continuing to go up and
7 down, according to the rain, and we had to leave--

8 Q Okay.

9 A --because we were told we cou--we'd not be able to
10 get out.

11 Q Alright. The June trip you were camped on the Nation
12 and you had a helicopter and you were in the area for
13 approximately three days then, is that correct?

14 A No, we had a helicopter only on the day that we came
15 in, because we had rafts to go down. The helicopter
16 did not come back, until we were informed that we could
17 not get out of Eagle.

18 Q So your only measurements on the Kandik River during the
19 June trip were above the selection area, one measurement
20 is that correct?

21 A Yes.

22 Q Alright. If you were trying to investigate the flow
23 of water in the selection area, wouldn't it occur to you
24 that it would be more relevant to make measurements in
25 the selection area?

1 A We were interested in determining the flow characteristics
2 of the entire river, since we had gotten five measurements--

3 Q Well--

4 A --by the time we made the decision not to go to the Kandik
5 on that trip, on the Nation. And had mad--also made the
6 decision that we were going to come back that--

7 Q Mr. Tileston, how--

8 A Okay.

9 Q --does one measurement on the Kandik River determine the
10 flow of the river?

11 A I would prefer you defer that question and ask the
12 professional, which will be on next.

13 Q Alright.

14 A Or the geologist.

15 Q Did you make any of your rod measurements--

16 A No.

17 Q --on the--on the Kandik River within the selection area?

18 A In June?

19 Q In June.

20 A I wasn't there.

21 Q You didn't go on the trip to the Kandik?

22 A I did--we--nobody went into the selection area, as I
23 previously testified.

24 Q On the June trip?

25 A In the June trip.

1 Q Only the hydrologist?

2 A At Big Sitdown Creek.

3 Q At Big Sitdown Creek?

4 A Correct.

5 Q Okay. But you were in the helicopter--

6 A No.

7 Q --that went to Big Sitdown Creek?

8 A Not on that particular trip. I was setting up the
9 camp.

10 Q Alright. Now, let's go--

11 A Mr. Allen--

12 Q Alright.

13 A --and Mr. Childers were in the helicopter, along with
14 the pilot and another BLM--

15 Q Alright. So on the June trip--

16 A --employee.

17 Q --the hydrologist didn't make any flow measurements
18 within the selection area?

19 A I previously testified to that.

20 Q Okay. Let's go to the August trip then.

21 A Okay.

22 Q Now, how many days were you within the area of the
23 Kandik and the Nation Rivers, during the August trip?

24 A A total of three days.

25 Q And how many people were with you?

1 A I think six people.

2 Q And who were they?

3 A Two stream hydrologists, a gentleman from our Washington
4 Office, Mr. Beau McClure, who is responsible for lands.
5 A--the area manager, Mr. Les Rosencrantz (ph), who is
6 responsible for the area, who lives at Tok. The pilot,
7 who stayed with us, we kept the helicopter for the
8 entire time. And two stream hydrologists from Geological
9 Survey, Mary Shields (ph) and Bill Glued (ph), I re--
10 think are the correct names.

11 Q How many--

12 A Any myself.

13 Q How many days on that trip did you have the helicopter
14 available?

15 A It was there in its entirety. The pilot camped with
16 us, so we could make maximum use of it.

17 Q Okay. Was this a State helicopter? Or did you rent
18 it from a private firm or . . .

19 A I couldn't tell you.

20 Q Do you have any idea of what--what the trip cost?

21 A No.

22 Q Okay. Now, August 1978. When did you come into the
23 area of the Kandik River?

24 A What do you mean by into? You mean when did I physically
25 first set--set ground on--set--set down on it?

1 Q Right.

2 A Okay. Was there August 3rd. We repeated the upstream
3 measurement at Jungle Creek that evening.

4 Q Okay. And then am I to understand that you camped at
5 some point within the selection area on that August trip?

6 A On the Kandik.

7 Q On the Kandik?

8 A Alright. Now--alright, which--this--I'm getting my
9 rivers mixed. Which one do you want to know first,
10 cause I was on both of them?

11 Q Well, let's just talk about the Kandik--

12 A Okay.

13 Q --for a while. Alright.

14 A We set up base camp in the selection area.

15 Q Alright. In the selection area?

16 A So--and that was done in the afternoon of August 3rd.

17 Q Okay. And how long were you within the selection area
18 on the Kandik?

19 A Well, of course we slept there three nights, which meant
20 we had breakfast and supper, when we were up and around.
21 So let's forget the sleeping part. When we were up
22 and might be observing things, there's probably four
23 hours on either end. I had lunch there and we took some
24 additional measurements for about five hours on the
25 fifth of August, while people were being transported out.

1 Again, we're talking expressly about the selection area?

2 Q Right.

3 A On the Kandik?

4 Q Right.

5 A So I spent a total of probably fifteen to sixteen waking
6 hours, camped on the bank of the Kandik River, in the
7 selection area, during the period of August 3, 4, and 5.

8 Q Alright. Now, we've seen fifty-eight slides of the
9 Kandik this morning, is that correct?

10 A Yes.

11 Q And we've only seen, by my count, two slides within the
12 selection area.

13 A Of the Kandik?

14 Q And I think those are . . . fifty-five and fifty-six,
15 but I might be wrong about that.

16 A Well, you saw slides of--it started with slide forty-
17 eight, which showed the general area, looking upstream.

18 Q No, let's talk about the selection area.

19 A Alright.

20 Q How many slides did you--

21 A Alright. Well, let's--

22 Q --take within the selection area?

23 MR. LUOMA: One at a time, please.

24 A Okay. We're starting with slide forty-eight. It was
25 taken downstream, looking into the general area of the

1 selection boundary. And I pointed out, with the pointer
2 on the slide, where the approximate boundary was and
3 the fact that at that particular slide was not that
4 there was the headwater areas--

5 Q Alright.

6 A --of the downstream bou--okay, that started with slide
7 forty-eight. Slide forty-nine was in the selection area,
8 it showed a rock outcrop and a series of rapids. Slide
9 fifty showed large boulders a quarter of a mile upstream
10 and I commented about the differences that you could still
11 get a boat up there, but that you had to navigate.
12 Slide fifty-one was an aerial view of the G.S. flow
13 measurement station and our camp, in the selection area.
14 Slide fifty-two was just upstream from the selection area.

15 Q Alright. So let's go back then. Which sli--which slides
16 were taken within--

17 A Within, that I showed--

18 Q --the selection area?

19 A --at this point, on . . . What is it? (Pause) Three,
20 that's correct. Forty-nine through fifty-one.

21 Q Well--okay. Let me clarify this then. Slide forty-nine
22 was taken--I understood you to say above Johnson Gorge,
23 looking up the river.

24 A No, slide forty-eight. Forty-nine, fifty, and fifty-one
25 were looking at the river in the selection area.

1 Q Okay. But forty-nine wasn't taken while you were in the
2 selection area?

3 A Negative.

4 Q Okay. What about fifty, was that taken while you were
5 in the selection--

6 A I took it.

7 Q --area?

8 A I took it, yes.

9 Q Okay. Fifty was?

10 A And so was fifty-one.

11 Q And fifty-one.

12 A I took it.

13 Q Okay. But fifty-two and the remaining slides were taken--

14 A No.

15 Q --while you were outside the selection area?

16 A That's correct.

17 Q So you only had two slides that were taken while you
18 were physically within the selection area?

19 A What do you mean physically within?

20 Q Either standing on the selection area or directly--

21 A Do you want me to generate a whole series of slides
22 standing around camp?

23 Q No, I just want to clarify which slides were taken with-
24 in the actual physical selection area.

25 A You mean where I was standing on the ground?

1 Q Right.

2 A None.

3 Q Okay. How come you didn't take any shots on the ground
4 within the selection area?

5 A I did. Why didn't I show them? I didn't feel they
6 were pertinent. They were basically of camp, on a
7 gravel bar. The slides that we had of the measurement
8 area on the ground weren't that good, but if you'd
9 like them, I'll provide them for you.

10 Q How many slides did you take within the selection area
11 on the Kandik?

12 A I couldn't tell you, without going back and counting.
13 Several. And by several, I don't mean two. I've
14 probably got between ten and fifteen.

15 Q Okay. Did--

16 A Most of them are duplicate shots.

17 Q Did you make any measurements of the water within the
18 selection area on the Kandik?

19 A With a rod, no.

20 Q Why?

21 A With my body, yes.

22 Q Why didn't you make any water measurements on the Kandik--

23 A Because we had just taken--

24 Q --in the selection area?

25 A --in the selection area a complete cross section of the

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1 channel, just adjacent and downstream from the island.
2 And they had a complete section every so many feet, which
3 the gentleman tomorrow, or this afternoon, will be able
4 to testify as to how deep the water is there.

5 Q But that's one point on the Kandik within the selection
6 area that that measurement was made, the flow measurement,
7 is that--

8 A And the depth.

9 Q --correct?

10 A And the depth.

11 Q Only one point--

12 A Right.

13 Q --within the selection area?

14 A Well, what do you mean one point?

15 Q One point laterally--

16 A It was the entire stream--the entire stream channel
17 was measured.

18 Q One--one cross section?

19 A Right.

20 Q Okay. That's the only measurement you made of this
21 river within the selection area--

22 A That G.S. made.

23 Q One cross section?

24 A Correct.

25 Q How many miles of river are there? How many miles of

1 the Kandik River are there within the selection area?

2 A Approximately seven.

3 Q Now, when you were on the Nation River, for example,
4 we saw slide after slide after slide after slide--

5 A Right.

6 Q --of your measurements of water depth.

7 A Right.

8 Q Why didn't you feel it was necessary to make measurements
9 of water depth at periodic points in the selection area
10 on the Kandik?

11 A Because there wasn't that much variance in the area,
12 for which you're going to get the testimony from G.S.
13 tomorrow, through the seven miles of selection, that
14 is any different than what you had seen. And remember,
15 also, that I had started, as I previously said, by taking
16 measurements on the Nation.

17 Q As a matter--

18 A By the time I had run as many na--measurements as I
19 had on the Nation, I was confirming what I expected
20 to find, in fact, and what I did.

21 Q As a matter of fact, the flow of the Kandik within the
22 sele--selection area is pretty uniform, isn't it?

23 A I could not tell you what the flow is.

24 Q Well, you just stated that you didn't feel it was
25 necessary to make more measurements along other parts

1 of the stream, because--

2 A For depth. I was not measuring flow.

3 Q What about the depth, is the depth pretty uniform?

4 A Relatively, yes. And I believe the slides so show.

5 Q As a matter of fact, you testified that it wa--it's--
6 it's a fairly dee--deep channel within the selection
7 area?

8 A I believe that's what I said.

9 Q But you didn't make any measurements within the selection
10 area on the Kandik?

11 A I don't think that it was necessary.

12 Q And you didn't count--

13 A I did not.

14 Q --and you didn't count gravel bars within the selection
15 area on the Kandik, did you?

16 A If I recall correctly, I did not claim that there were any
17 in the selection area.

18 Q Alright. Now . . . Have you ever taken a pole boat up
19 the Kandik River?

20 A No.

21 Q Have you ever taken a tunnel boat up the Kandik River?

22 A Nope.

23 Q Have you ever taken an air boat up the Kandik River?

24 A Nope.

25 Q Alright. Has your use of the Kandik River been exclusively

1 recreational?

2 A No.

3 Q Your use, in your personal capacity?

4 A Well, when you say my use, I'm not making a distinction
5 in terms of being able to qualify whether it is or--or
6 not. My only personal use was obviously recreational.

7 Q Okay.

8 A Is my observation or--you know, as to what the water
9 depth, any different as to whether I'm on personal or
10 official business, no.

11 Q Alright. Why didn't--let's go back to your--your job
12 as Division of Resources--Chief of Division of Resources
13 and your--your testimony that if your--as I understand
14 it, you're in charge of--of--I think you characterized
15 it as giving guidance to the State Director as to policy
16 and . . .

17 A We've got twenty-one professionals--

18 Q --so forth?

19 A --that range from an archaeologist to a geologist to
20 a mineral patenter. And it's my job to--overall guidance
21 to that office.

22 Q Okay. Did you ever feel it was necessary to order a
23 field study of the Kandik, such as this one, prior to
24 this appeal?

25 A No.

1 Q Why?

2 A Because there was no question on navigability, to my
3 knowledge. As an example, the selection that was con-
4 veyed in a same time frame on a river a little bit smaller,
5 but not--not that much difference on the headwaters of the
6 Black, three townships away, was also non-navigable, if
7 I recall correctly. Is that correct? You've got the--
8 didn't--wasn't there a non-navigable determination on the--
9 it's not fair for me to ask questions. I just recall there
10 was a non-navigable determination.

11 Q alright. But--but BLM didn't feel it necessary to make
12 the--a study, such as you've made in 1978, prior to the
13 beginning of these appeal proceedings?

14 A No, because suspectability was not an issue, at that
15 point.

16 Q According to BLM's determination?

17 A Right. Right.

18 Q But they'd never given any formal notice to the regional
19 corporation--

20 A I said I could not testify--

21 Q --of navigability?

22 A --to that one way or the other.

23 Q Alright.

24 A Other than the DIC, and that is formal notice.

25 Q Weren't you familiar, as--both as being Chief of Division

1 of Resources for BLM and with your prior work with Bureau
2 of Outdoor Recreation of--of the Bureau of Outdoor Re-
3 creation's view that any river which received significant
4 use was navigable?

5 A I believe that if you got that impression that it is
6 not supported in the Department's official position,
7 nor was it the position of myself, or the instructions
8 that I had from the secretary's office directly, when
9 I was conducting and responsible for those studies, to
10 make any determination of navigability or non-navigability.
11 We looked exclusively at one factor. Was the body of
12 water capable of being used for recreational use.
13 Navigation even on the Yukon, you know. BOR made no
14 official position one way or the other, because that is
15 title.

16 Q Is that--

17 A Not use.

18 Q Okay. Now, as a--as a practical matter, as far as
19 BLM was concerned in--in 1975, they were primarily
20 concerned with the issue of easements on these lands,
21 weren't they?

22 MS. NEVILLE: Your Honor, I'd like to object
23 at this point. I--I'm not sure that this line of questioning
24 is proper cross-examination. I think it goes way beyond the
25 scope of the direct. And I also think that we're getting into

1 legal issues that may be--aren't going to be resolved on the
2 basis of Mr. Tileston testimony. I don't think he's sitting
3 up there as spokesman for the entire BLM and the entire Depart-
4 ment of Interior on how--what they were considering important,
5 what procedures they followed, et cetera.

6 MR. LUOMA: Does this question of easements
7 finally get to the issue of navigability in some way?

8 MS. TAYLOR: Yes, Your Honor.

9 MR. LUOMA: How?

10 MS. TAYLOR: Mr. Tileston testified on direct
11 that until the last several months they--they'd had a task
12 force approach to the determination of navigability, that the
13 leader of this task force was a member of his staff, and that
14 this task force was concerned with navigability and easements.
15 It's certainly a proper question to ask Mr. Tileston whether
16 this task force wasn't, in fact, primarily concerned with the
17 identification of easements, since that was a hot topic in
18 those days.

19 MR. LUOMA: Alright. Go ahead and ask that
20 question.

21 Q (By Ms. Taylor) Alright. Weren't--weren't they
22 primarily concerned with the identification of easements?
23 Wasn't this--

24 A Yes.

25 Q --what all the controversy was about?

1 A Yes.

2 Q As a matter of fact, there was a lawsuit in Federal
3 Court over the general subject of the Secretary of the
4 Interior's easement guidelines and--

5 A Whether--

6 Q --whether they were proper?

7 A Whether there was at the point this went through, I
8 don't know. But if it wasn't, it's moot, because it
9 came shortly thereafter. It was not--

10 Q Okay. But it--but it illustrated the who--the--the
11 sensitivity of the easement area?

12 A Um-hm.

13 Q Alright. Now, as a matter of procedure, a formal notice
14 of proposed easements was sent out to various parties
15 and agencies concerned, before a decision for interim
16 conveyance would be issued, is that correct, as a matter
17 of procedure?

18 A That sounds like it would be.

19 Q Alright. And then do the agencies and the regional
20 corporation or the affected parties have a opportunity
21 to comment on the easements?

22 A I would think so. But, again, as I testified ealier,
23 I'd have to sit down and look at the regulations and
24 see--

25 Q Okay.

1 A --whether this was or was not. I'd have to refresh my
2 memory and look at the files, as to what actually happened.
3 And I just don't recall, because I came prepared to talk
4 about--

5 Q Alright.

6 A --what was the water depth and not who did what to whom
7 by what piece of paper.

8 Q But the easement task force obviously dealt with easements
9 primarily?

10 A And navigability.

11 Q Was navigability an afterthought?

12 A I don't think so.

13 Q But you--

14 A The task force was established prior to the time that
15 I was there. I know that it was titled easement and
16 navigability. And that there--among the guidelines and
17 the instructions that were given to the few people who
18 did the work, navigability was a factor that they were
19 to consider. It was a factor that they were to address.
20 I can not tell you specifically what was done in accord
21 with those procedures on this application. I can, if
22 I refresh my memory by looking at the files. Those files,
23 I believe, are in Anchorage right now. But I can provide
24 it to you later, but I can not provide you did so and so
25 write such and such, et cetera.

1 Q Alright.

2 A I was under the impression we were talking about what
3 were the physical characteristics of the river, was it
4 used, and as a result, I just didn't--you know, I didn't
5 bother to look up that sort of thing.

6 Q Alright.

7 A Cause I thought we were talking about the river.

8 Q Now . . . Did you ever visit the Nation River as part
9 of your official capacity with BLM prior to 1978?

10 A No.

11 Q Okay. So this--this summer, June 1978 and August 1978,
12 trips, that's two trips, right, to the Nation River--

13 A Correct.

14 Q --are your--are your first official visits with BLM?

15 A Right.

16 Q To the Nation River. Do you know if any field studies
17 were made as to navigability of the Nation River, within
18 the selection area, prior to this summer--this last
19 summer?

20 A May I ask what you mean by studies? You mean, did any-
21 body go out and direct measurements be taken?

22 Q Right.

23 A Not to my knowledge.

24 Q Well, when you decided that this last summer's trip to
25 these two rivers was necessary, did you go back to look

1 and see if BLM had collected any previous--

2 A I talked to Geological--

3 Q --data?

4 A --Survey, because the pieces of information that we
5 wanted dealt with depth, it dealt flow, it dealt with
6 how regularly or how predictable certain water levels
7 could occur, and there was--that type of information
8 did not exist anyplace in the State.

9 Q Okay. Thank you. So, therefore, it was necessary for
10 BLM to go out this summer to collect that sort of informa-
11 tion on depth, flow . . .

12 A When--

13 Q --the physical characteristics--

14 A When the--

15 Q --of the river?

16 A --observations that had previously been made on navigability
17 which related to shallow bars, which related to log jams
18 were, in turn, challenged and said, "hey, that's all wrong,
19 we can get a boat up".

20 Q Well--

21 A Alright. So then we had to go out and say, "nobody's
22 going to believe me, unless I've got--you know, I've
23 gone out and measured it". And that's what we did.

24 Q Okay. When you talk about observations as to navigability
25 that were previously made--

1 A Yeah.

2 Q --where are these observations contained?

3 A I couldn't tell you that. I know, as far as the Kandik
4 is concerned. One of the observations, as I previously
5 testified, were the field notes dated September 6--9,
6 1972, signed by me. And it was in the file. And as I
7 indicated previously, it had been used and was part of,
8 although I was not directly part of, when they did the
9 Kandik. I don't know what was done, I was not there,
10 I was not consulted personally on the Nation, because
11 I had no prior knowledge.

12 Q Alright. Your--your field trip on the--on the Kandik,
13 in 1972--

14 A Um-hm.

15 Q --then is it your testimony that that was used by BLM
16 in making a formal determination--

17 A It was--

18 Q --of non-navigability?

19 A --considered, as were everything else.

20 Q What other reports--

21 A I don't know, I wasn't there. Characteristically what
22 happens in this sort of thing is--alright, what were
23 the observations, what do you know about the area, have
24 you been there, this sort of thing. And I don't know
25 what precisely happened on this.

1 Q Okay.

2 A And I've said that several times.

3 Q But you were with BLM in 1975 as Chief of Division of
4 Resources?

5 A Yes, and easements was one of about eighteen different
6 responsibilities--

7 Q Okay.

8 A --and professionals which came reporting to me.

9 Q And you test--

10 A I did not get personally engaged, as an example, in
11 all mineral patent applications.

12 Q But as far as a formal determination of non-navigability
13 that wasn't made until the decision for interim conveyance,
14 isn't that correct?

15 A The State Director is the only one that can make the
16 determination.

17 Q The State Director of BLM?

18 A Right.

19 Q Do you have any documentation that he ever made such a
20 determination?

21 A I presume his signature on the DIC is such.

22 Q Okay. So, it's--

23 A But, I--you know, what else is there, I don't know.

24 Q But it's the DIC then that is the formal--

25 A It's the official--it's the formal notification.

1 Q Okay. Alright.

2 A Now, and--now, your earlier question was, has anybody
3 received it. I assume you received the DIC.

4 Q And you were with BLM when the DIC was handed down,
5 in December 5th of 1975?

6 A Yes.

7 Q Okay. But you don't know what input was used to make
8 that decision in the--in the DIC?

9 A Personally I do not.

10 Q Alright. (Pause) When you made the decision to visit
11 the Kandik and the Nation Rivers this last summer,
12 in August of--the visit in August 1978, why did you
13 decide to make this trip during the period of the
14 lowest water level on the rivers?

15 A Because we'd gotten the period when it was already high.
16 And as I said earlier, we wanted to get and present
17 both sides of the case in accurate measurements.

18 Q Okay. But if I understand you correctly, you personally
19 didn't make any water measurements during the period
20 of high water? You weren't on the river--

21 A No, in terms of actually measuring. In terms of did I
22 make observations, yes. And I showed you several slides
23 on observations on difference of water level, based on
24 vegetation.

25 Q Okay. And you didn't make any measurements personally

1 on the Kandik River, during August of 1978?

2 A No.

3 Q Alright.

4 A Wait a minute. Say again.

5 Q You didn't make any--during--in the selection area--

6 A Did I make any personal--

7 Q --on the Kandik River--

8 A --measurements, the answer is yes, as I said previously.

9 I waded back and forth and I pointed out on the slides
10 where I had waded back and forth, in the selection area,
11 and pointed out in the camp area how deep it was, where
12 the bar was, how high it was on my body, how much
13 difficulty I had, and how'd the bar--so I did take measure-
14 ments. Did I take a rod and say, "it is exactly three
15 point four feet", no. Did I measure it, yes. I waded the
16 entire stream.

17 Q Okay. Now--

18 A I did not bother to take physical measurements, because
19 we've got physical measurements coming.

20 Q Alright.

21 A Through Mr. Childers.

22 Q But you really didn't go into the same detail of
23 investigation during the high water period that you
24 went into during the low water period on these rivers?

25 A I had been down the Kandik, as I--remember I testified

1 earlier, in September of '72, by canoe on a high stage.
2 I showed you a slide of a moose and how high up the
3 river was in September of 1972. So I had previously
4 seen, personally, the entire river. At that time I
5 did not know that there was a selection, so I can not
6 testify that I took measurements as such. At that time
7 I was looking at boating characteristics. I was looking
8 at hazardous to navigation. I was looking at access.
9 I was looking at land uses. And those were the things
10 which I incorporated in my field report that I previously
11 indicated. That was what was--they're field notes, not
12 recommendations. Field notes, that were provided Doyon,
13 provided the State, and were considered by the task
14 force. And they were observations.

15 Q But of the--let's take the Nation, get back to the
16 Nation River. The--

17 A Okay.

18 Q --in--in August of '78. You took numerous measurements--

19 A Because I was there first.

20 Q --of the Nation River.

21 A Because I was there first.

22 Q Mile after mile after mile.

23 A I took eight out of thirty some miles.

24 Q And numerous slides of the Nation River.

25 A Right. I have numerous slides on the Kandik also. Would

1 you like me to, you know, get the rest of the sandbars?

2 Q But you--

3 A I tried to select them out, but I'll get them.

4 Q But these slides and measurements were all taken during
5 a period of low water on the Nation River, the August
6 slides. This is a--this is a period of generally low
7 water on the river.

8 A Alright. Now, are--are you getting at--well, let me
9 put it this way, the answer is, yes, they were. Do I
10 have any basis to assume or presume what high water or
11 higher water levels conditions might be and the answer
12 is, yes. I've been down the river during high water,
13 in relation to the Kandik. That was part of my decision
14 that a good measurement upstream, and I'll defer to Mr.
15 Childers to explain that, was sufficient and that backing
16 it with--because, again, what we're talking about is
17 the Kandik and the Nation, can you get a boat to the
18 selection area.

19 Q Okay. Let's talk about your August '78 investigations,
20 you know, as--as a lump--

21 A Right.

22 Q --as an entity. BLM never determined that it was
23 necessary to do a similar investigation during a period
24 of high water, is that--is that correct?

25 A I'm not sure what--what--what you asked.

1 Q Well, the decision was apparently made by you to have
2 a hydrologist make rod measurements during high water,
3 at--at some nine points along these--

4 A That's not correct.

5 Q --rivers.

6 A That is not correct. I took rod measurements. The
7 geologi--and I was measuring bars. The Geological
8 Survey took several, upper, middle, and lower.

9 Q Okay. My--

10 A And there are two different sets of measurements.

11 Q Right. Okay. During the June 1978 period of high water
12 the hydrologist took--or higher water, the hydrologist
13 took flow measurements--

14 A Right.

15 Q --on the two rivers?

16 A Right.

17 Q Except he didn't take any in the selection area on the
18 Kandik River?

19 A Correct.

20 Q But during August, during the period of low water, you
21 went on the river mile by mile taking some pretty
22 detailed measurements of water level?

23 A Right.

24 Q But you didn't take the same detailed measurements of
25 water depth during the period of high water?

1 A I didn't take it on either river.

2 Q On either river?

3 A Right.

4 Q Okay.

5 A And I think I'd said that previously.

6 Q Now, is there any river in Interior Alaska that's free
7 from hazards?

8 A No.

9 Q Even--even the Yukon has hazards to navigation?

10 A No. Ya--yes, yes, it has hazards. The hazards are
11 different.

12 Q Is--is it fair to say that--that gravel bars are a very
13 common occurrence on Interior rivers in Alaska?

14 A No, it's not. Not in the frequency or in the closeness
15 that we saw on these two rivers.

16 Q But aren't they very common on Interior Alaska rivers?

17 A Sure.

18 Q Don't they exist on virtually every river in Interior
19 Alaska?

20 A Virtually, yes.

21 Q Alright.

22 A There are a few that don't, but that's--

23 Q Alright. Now, at some point, when we were seeing your
24 slides, you--you made the statement that the channel--
25 the river channel was completely blocked by trees, by

1 a log jam. Do you recall that?

2 A No, I do not.

3 Q If you had made such a statement, did you mean to say
4 that--that the water flow was obstructed? In other
5 words, did you ever come to a point where the water was
6 completely blocked on the river?

7 A Yes.

8 Q Alright. If the water flow's completely blocked on the
9 river, where does the water go? Why does the water keep--

10 A It goes through it. That's why sweepers are so dangerous,
11 is the water--

12 Q Alright. When you say--

13 A --actually flows through it, but you can not get a boat--
14 in other words, you've got trees that are like this,
15 though it's not a dam. The water literally flows through
16 the area and you can't get over it, you can't get under
17 it. You can not get around it, because generally you've
18 got high banks when you get into that type of condition.

19 Q Alright. The particular log jam that you were talking
20 about was on the Kandik and it was in the vicinity of--
21 of thirteen, but it--it's a typical--

22 A I don't recall--

23 Q --I think what you testified is a typical--

24 A --saying that it blocked the entire channel, but--

25 Q Alright. Isn't what you meant that--that the obstruction

1 may have extended across the entire width of a channel?

2 A May we return to slide thirteen and see what I meant?

3 I--I really don't know.

4 Q Thirteen is the cabin.

5 A And since you're getting specific, I'd like to look at
6 the slide, if I could. This is slide which, now?

7 MS. NEVILLE: It might be eighteen.

8 MS. HIGGINS: It might be eighteen.

9 MS. NEVILLE: And it might be nineteen.

10 A On the--on which one?

11 MS. NEVILLE: The Kandik.

12 Q The Kandik.

13 MR. ALLÉN: How do you spin--

14 A Turn--turn it on. Push the select button there and
15 then rotate it to eighteen. All the way up. (Pause)
16 I don't believe I commented in that slide that the log
17 jam went all the way across the river. If that's the
18 slide we're referring to. (Pause) Is that the slide
19 we're referring to?

20 Q I don't--I don't know which slide it was, but I do know
21 that you made the statement that at one point--

22 MR. LUOMA: You made the statement and this is
23 not the slide.

24 Q --the channel was completely blocked by trees. And what
25 I'm trying to clarify is what you meant by completely

1 blocked. I mean, it would seem to stand that if the
2 water's flowing over something, the channel is not
3 completely blocked. Are you making a distinction between
4 the obstruction going from bank to bank, is that--is that
5 what you referred to?

6 A Well, again, I'm--I'm hazy. And I'm trying to give you
7 a precise answer, so if I may go to the slide, maybe
8 we could clarify the issue.

9 MR. LUOMA: Off the record.

10 (OFF THE RECORD)

11 (ON THE RECORD)

12 MS. TAYLOR: What slide is this?

13 MS. NEVILLE: Sixteen.

14 Q (By Ms. Taylor) Okay. We're looking at slide--

15 MS. NEVILLE: Sixteen.

16 Q --sixteen of Exhibit B-Thirty-three. Now, what does
17 this slide show?

18 A This slide shows a--the Kandik River, flowing from the
19 right, down to the center and then out of the picture,
20 to the left. I previously testified as to where it is,
21 so I'm not going to worry about--

22 Q Okay. Right.

23 A There's been discussion about whether the channel is
24 or is not blocked. Coming down through this channel the
25 cutbank gives you the deepest water. This is very shallow

1 water here, you can see the water going across. Coming
2 into the lower quadrant, the lower third of the river,
3 at its widest point, there are one tree coming completely
4 across and submerged. And you can see the white water
5 coming off of where that tree is actually going into the
6 water, right here. Immediately adjacent to it are the
7 upturned roots. And you can see, again, the tree stubs
8 coming off this direction, you can see another tree here
9 you can see another tree here, one set of roots, another
10 set of roots, and then immediately over here, from this
11 tree, is the other one. So, as far as this part of the
12 channel is concerned, it's completely obstructed in terms
13 of upstream movement. You would have to get out of the
14 boat and go around it. You would likewise have to get
15 out of the boat coming around through this area.

16 Q Okay. But it isn't completely blocked in terms of flow
17 of water?

18 MR. LUOMA: It's not a dam?

19 A It's not a dam.

20 MR. LUOMA: Okay. You've made your point.

21 Q Okay. That's all I'm trying to get at. Now, you didn't
22 find any of these type of log jams in the selection area?

23 A No.

24 Q Okay. And are these log jams a temporal phenomenon on
25 some sense? In other words--

1 A No.

2 Q --do they--do they come and go? They never change?

3 A Do they ever change, certainly. They change ever high
4 water. Is there always a log jam at this point, the
5 answer's yes. Is it always that big, no. Because you're
6 working on a cutbank and characteristically you're going
7 to get log jams on that bank, until the channel changes.

8 Q What about other logs in the river?

9 A What about them?

10 Q Are they permanent?

11 A (Pause) What do you mean by permanent? I guess.

12 Q Does--does higher water, in certain positions on the
13 river, affect what logs are on the river, affect the
14 log jams?

15 A Yes, it would. But let me qualify this--

16 Q Okay.

17 A By one--

18 Q Just answer--alright, you can--you can explain your
19 answer.

20 A May--may I? Alright. You get your highest water in
21 your Interior rivers just at breakup. Or on very heavy,
22 but infrequent, rain storms in the summer. On the yearly
23 breakup, predictable high water, which is what we're
24 talking about, you'll recall in one of the slides at,
25 I believe it was the mouth of Ettrain Creek, on the . . .

1 Nation River, on June 20th, on the ground, and I'm--I'm--
2 I'm going by memory at this point, looking across Ettrain
3 you saw a slab of ice. On your high water, in the spring
4 time, these gravel bars are full ice. Your trees that
5 are sitting there, even though the water may be running
6 around, are firmly anchored by that armor of ice to the
7 gravel bar. So that unless you get an exceptionally
8 heavy rain storm in the summer, those trees tend to
9 stay there for very long periods of time. In other
10 words, until you get an unusually--and that's why I
11 say it--it is, yes, you do have high water. Does it
12 affect it, and the answer to that is not always, because
13 when you get the highest water, predictably, all of
14 your banks are covered in with ice lenses several feet,
15 just similar to what you saw on that one slide.

16 Q Okay. But sometimes it does affect it, the high water?

17 A Sometimes.

18 Q Okay. I wonder if we could turn the slide off.

19 MR. LUOMA: Would this be an appropriate time
20 to break for lunch, Miss Taylor?

21 MS. TAYLOR: Yes, I think it would.

22 MR. LUOMA: Alright. Let's recess until one-
23 thirty.

24 12:20 (OFF THE RECORD)

25 (LUNCH RECESS -- CHANGE OF TAPE)

00471

1:30 (ON THE RECORD)

Q (By Ms. Taylor) Mr. Tileston, if we could talk a minute about the Nation River. Now, it's my understanding from your testimony that as far as your measurements of the Nation River in August of 1978, you were attempting to measure the low--the shallowest point of a shallow point on the river?

A No.

Q Okay. Did you confine your measurements, the ones that you took, to places where there were gravel bars or other obstructions?

A With the exception of where I was wading, yes.

Q Okay.

A Now, you're ta--again, I'm answering that question in the light of physical measurements--

Q Right.

A --and I'm presuming that's the way you're asking--

Q Right, um-hm.

A --the question.

Q We're talking about--

A Alright.

Q --the physical measurements. Alright. It was--it's my understanding that what you were trying to get at with your physical measurements was a--a measure of effective depth, as you characterized it, is--is that

1 correct?

2 A How much water was available to float a boat, yes.

3 Q Alright. But you weren't concerned with measuring
4 water in the--in the deep stretches of the Nation River?
5 You were--you were concerned with measuring water in the
6 places of the river where it--where the depth is--is
7 shallower, is that fair?

8 A I--I'm not sure it is, because you're suggesting that
9 we were ignoring, you know, other aspects of the river
10 and I'm sure I--

11 Q No, I don't mean to sug--

12 A --pointed out depths that were--

13 Q No.

14 A --well beyond--

15 Q No.

16 A --you know, six feet or four feet or this sort of thing.

17 Q I don't--I don't mean to suggest, you know, that you
18 were ignoring something. I'm just trying to get an
19 understanding of what your survey method--

20 A Our survey method was--

21 Q --was.

22 A --basically as if you were going to take a boat upstream
23 or downstream, what would be impediments and how severe
24 were the im--impediments.

25 Q So you were measuring impediments on the stream?

00473

1 A Yes.

2 Q Measuring the water depth at places where there were
3 impediments? Admittedly not every impediment.

4 A Right.

5 Q You--you couldn't have done that, but you--you picked
6 impediments as the places to measure effective depth?

7 A Yes.

8 Q On the Nation an--or, for that matter, on the Kandik
9 River, also. Your--

10 A Right.

11 Q My understanding is that your--your technique doesn't
12 differ between the Kandik and the Nation, it's the same--

13 A That's correct.

14 Q --methodology? Okay. But these measurement that you
15 have of the--the effective depth, to use your phrase,
16 at any given impediment on the river were only made at--
17 at one point in time, i.e., August 4th and 5th, 1978?

18 A That would be correct.

19 Q Okay. In other words, you have no comparative measurements
20 of those particular points of the river in another month--

21 A No, that is not--

22 Q --of a year?

23 A --correct.

24 Q Okay.

25 A And this is why I was saying earlier the physical measure-

1 ments were intended to confirm a whole series of--

2 Q Well--

3 A --casual observations made at different times of the
4 year--

5 Q Well--

6 A --and that I needed to know, in fact, how deep was the
7 water, because--

8 Q I think you misunderstood my question. The question
9 I intended to ask you was, you have no comparable measure-
10 ments, with the--with your rod out there, of the same
11 points of the river at another time of the year?

12 A Only within the context that the real issue that sooner
13 or later we're going to get to is how deep is the water.

14 Q Okay.

15 MR. LUOMA: Now, Mr. Tileston--

16 A Yes.

17 MR. LUOMA: --Tileston, the answer is--the
18 testimony you have given us, I'm sure it is, that you did not
19 make comparable measurements of--

20 A That's correct.

21 MR. LUOMA: Well, simply say so.

22 A Alright.

23 Q Can you just answer yes or no?

24 A Yes.

25 Q Alright.

1 A And the answer is no.

2 Q Okay. Thank you. So we don't have any standard for
3 comparison purposes of a comparable depth measurement
4 in inches, on these same points of the river, at another
5 time of the year, isn't that correct?

6 A For most of them that's correct.

7 Q Alright. Now, as far as the Nation River's concerned,
8 and confining yourself to the selection area, did you
9 make any observations as to the--the average width of
10 the river in that area?

11 A As such, I'm sure I did. I can't recall them offhand.
12 I know that I took measurements on the bars and I
13 think I gave those. And they're probably close to
14 typical.

15 Q I--I don't have any notes of--of width areas.

16 A The rod stations give a width for the gravel bar at that
17 point. Now, those gravel bars are somewhat diagonal
18 across, so the width would be slightly less.

19 Q Okay.

20 A And I think in others--

21 Q So you don't recall what the width is?

22 A I--

23 Q The average width of the river--

24 A The average width--

25 Q --in the selection area.

1 A Is--is that what you want to know--
2 Q Um-hm.
3 A --is what is the average width?
4 Q In the selection area.
5 A In the selection area. (Pause) On the Nation River?
6 Q On the Nation River.
7 A (Pause) It probably varies between fifty and a hundred
8 feet. And probably seventy-five would be fairly
9 accurate, if you wanted to characterize the whole thing.
10 It narrows down and it spreads out--
11 Q Okay.
12 A --in a couple of places. And I'm talking about the
13 thread of the water as it was.
14 Q As it was--
15 A August--
16 Q --in August--
17 A Right.
18 Q --of 1978?
19 A Right.
20 Q And that was the width of the water itself--
21 A Well, we had--
22 Q --not the gravel bars?
23 A --other measurements that were taken that G.S. will
24 testify to as to the--what water width and water depth
25 that were taken in June.

- 1 Q Okay. But the average width would be maybe seventy-five
2 feet?
- 3 A In the selection area, I--
- 4 Q Somewhere.
- 5 A That's, I think, is a fair representation.
- 6 Q Okay. Now--
- 7 A For that period.
- 8 Q --when you testified concerning the Nation that periods
9 of--of high water wouldn't last more than four or five
10 days, did you mean periods of high water resulting from
11 summer thunder storms or did you mean the period of
12 high water during spring run off?
- 13 A Thunder storms. Because run off or spring is you've
14 got ice floating on it.
- 15 Q Okay. You--you weren't characterizing the--the normal
16 high water period on the river as four or five days?
- 17 A I would prefer to let the Geological Survey--I would
18 say from my--
- 19 Q Okay.
- 20 A --own opinion--and they will give it, and that's what
21 you're asking me, is it probably lasts four to five
22 days.
- 23 Q Did you have any--any--well, how long were you on the
24 Nation River in--in August of '78?
- 25 A We were there June 19 through 22, three days.

1 Q Okay. Now, I understood--

2 A The middle part.

3 Q You testified concerning your camp site in the Nation
4 River, that you tied the rafts up and--and during the
5 night the water re--level rose in that area, that was
6 an example of the fluctuation--

7 A Um-hm.

8 Q --of the river in that area. And this was within the
9 selection area, as I understood it, is that correct?
10 Your camp site.

11 A Not that camp site, no.

12 Q That camp site wasn't, okay. Where was that camp--
13 where was that camp site?

14 A Oh, that particular camp site--again, Nation River?
15 (Pause) Was twenty-three miles above the mouth and
16 eleven miles downstream from the selection area.

17 Q Okay. Did you camp inside the selection area--

18 A We did not.

19 Q --on the Nation? Okay. You--let's see, as I recall--

20 A That's--

21 Q --you--you spent several hours--

22 A In August.

23 Q --there in August?

24 A The water washed us through in June.

25 Q Okay.

1 A We did stop and take some measurements though.

2 Q Alright. While you were on the Nation in August did the
3 water level ever drop--

4 A No.

5 Q --drastically?

6 A No. And, again, as I said earlier, we took some repeat
7 measurements two days apart.

8 Q Okay.

9 A It seemed to be stablized at a relatively even flow.
10 And I think earlier--I'd like to clarify one thing.
11 You've suggested that perhaps this was lowest flow.
12 I don't believe that to really be the case, based on
13 my knowledge of rivers in general in this part of Alaska.
14 Specifically based on many, many hours of field work.
15 It is low, but I would say it's probably very typical
16 of what you would expect to find in August.

17 Q Alright. Did you compare--you--you didn't compare any
18 statistics as to stream flow of the--of other rivers
19 in the area that you're to know what the run off was,
20 in general?

21 A No.

22 Q And there would be a fluctuation among rivers from year
23 to year, depending on how heavy the spring run off is?

24 A Now which are we talking about, spring run off--

25 Q Any river.

1 A --or rainfall?

2 Q Spring run off.

3 A Spring run off should be about the same each year, because
4 that's a function of snowfall.

5 Q Okay. And the snowfall doesn't vary?

6 A It doesn't vary that much.

7 Q Okay.

8 A Yes, it varies from given year to year, but not that
9 much.

10 Q But you didn't--you don't--you didn't check any--any
11 reports to know as far as that area's concerned whether
12 this was documented to be a--a low level year or a high
13 level year?

14 A I think I previously testified there was no data on flow.

15 Q Alright. But you--but you testified as to the things
16 you'd looked at--

17 A Yes, and there was no flow data on those either.

18 Q --comparing water level? Right. Okay. But it was--

19 A Now physical measurements.

20 Q --you felt it was pretty typical of a low level--of
21 a low--generally low time of the year, maybe not the
22 lowest time of the year--

23 A It was typical summer time flow.

24 Q Alright. And that is a low--August--early August is
25 a time of low water on the river?

1 A As is July, as may be June, as may be September. You
2 could find that water level that we found in August
3 3, 4, and 5--

4 Q Okay.

5 A --many times throughout the summer. The only time it
6 would go up is after the water has dropped in the
7 summer time or if you have a rain.

8 Q Okay. Mr. Bown testified yesterday that the water level
9 general tends to get lower over the summer. In other
10 words, there's a trend downward. Do you think that's--
11 do you agree with that statement?

12 A In a broad simplistic answer, yes.

13 Q Okay. Now . . . when you were on the--when you were
14 testifying about--about your measurements on the Nation
15 River you stated that the average person in one area
16 had a--had a chance of getting swept off his feet, where
17 the--where the water was knee deep, and that it was
18 difficult to make stream crossings in high water,
19 even--even with horses. As a matter of fact, when
20 you were on the Nation River and you had to cross the
21 stream. At least at one point you got in your rafts
22 and floated on the river, got to the other bank, and
23 made whatever necessary arrangements you had to make
24 on the other side, isn't--isn't that correct? Wasn't
25 that on the Nation River?

1 A Yes. And I think I--

2 Q You had to float across--

3 A --need to clarify that, also. With the raft at the
4 upstream area on the Kandik and on the Nation, and
5 that was on a--I'll let Mr. Child--Childers testify,
6 it was aircraft cable, which is very strong. And he
7 can give you the exact tensile strength. That cable
8 was parted twice as we were trying to take measurements
9 as only the amount of water that was on the surface,
10 the raft, it was flowing very swift. And this was--
11 again, was part of the reasons that we decided it was
12 not fruitful to get--it wasn't safe when it's breaking
13 aircraft cable like that, with nothing more than a
14 raft pulling it (ph).

15 Q Alright. Were there many points on the river that it
16 was--that it would be difficult to ford the stream--to
17 wade across the stream?

18 A At which water level?

19 Q I--well, in low water level, in August--

20 A At low water level you could wade any of those gravel
21 bars.

22 Q Well, I understood you to say that you were in the
23 selection area on the Nation. And that there were areas
24 even in the selection area where the water was knee deep
25 that you would have difficulty getting across the stream.

1 A That's correct, but that wasn't at a gravel bar.

2 Q Well, it was--I didn't confine my question to gravel
3 bars.

4 A Alright. That--but I--my answer was--could you--you
5 asked, could I cross a gravel bar, the answer's yes.
6 Could you cross anyplace--

7 Q No, I didn't ask--

8 A --no.

9 Q --you that.

10 A Alright. Rephrase it.

11 Q Where you don't have a gravel bar--

12 A Would you have difficulty--

13 Q --is it quite difficult to--to--

14 A --crossing?

15 Q --to cross these streams?

16 A In the selection area, on the Nation River, at which
17 level?

18 Q At low water level.

19 A At low. Something like we saw--

20 Q Um-hm.

21 A --for a typical summer?

22 Q Yes.

23 A You could cross many places.

24 Q But many places are very difficult to get across, even--

25 A Yes, because the currents--

- 1 Q --at--even--even at low water level?
- 2 A Yes.
- 3 Q Alright. Alright. Again, around the Nation River and
4 in the vicinity of the selection area you had some testi-
5 mony about sometime access to the area by the ridgetops.
- 6 A Um-hm.
- 7 Q You were talking--you were talking generally about
8 overland access--
- 9 A Yes, but my specific--
- 10 Q --in the area.
- 11 A --reference was a gentleman who lives on a mountain in
12 the Kandik.
- 13 Q Okay. And that gentleman boated up to that particular
14 point.
- 15 A Part way. And then if he had a distance to go, what he
16 did was move to the ridgetop and--and walk the ridgetops.
- 17 Q Okay.
- 18 A That was at least his experience that he related to
19 me, as of that point in time.
- 20 Q Okay. You didn't mean to suggest that you could use
21 the ridgetops for any continuous sort of access along
22 the river?
- 23 A If you were hiking and for recreation purposes. And I
24 was going through that country for hiking purposes.
25 In the summer time I would tend to the high country than

1 I would the low. Now that's my personal choice for
2 recreation.

3 Q Because the low cou--the low country presents really
4 serious difficulties, according to your testimony--

5 A Yes, and--

6 Q --the muskeg and--

7 A --particularly mosquitoes.

8 Q Alright. But the ridgetops don't follow the river area,
9 obviously, along its whole length? In other--

10 A They do a pretty good job.

11 Q But the topography changes from area to area?

12 A Not that seriously, if you'll look at the photographs
13 you see that there is a general trend. And it's shown
14 on the U.S.G.S. also, that there is--the ridgetops are
15 trending in a northeast-southeast direction. And they
16 tend to follow in the basins in--between the Tatonduk,
17 the Kandik, the Nation, the Black. All tend to be
18 rather uniform. They don't have very many sharp peaks,
19 so that you can--if you want to--and again, I was
20 qualifying it by saying for recreation, for backpacking.

21 Q Okay. Okay. So--

22 A People would tend to follow the ridgetops, because it's
23 easier there than it is on the do--if you're going point
24 to point.

25 Q Okay. And if you had a reason to go from point to point?

1 A Right.

2 Q And as you stated, you're confining this to recreational
3 backpacking use?

4 A Right.

5 Q Okay. There are no roads in the selection area that
6 you observed, are there?

7 A Not that I'm aware of. And--and again, I'm going to--
8 I'll say definitely not as far as the rivers--again,
9 I was looking at the rivers--

10 Q As far as--

11 A --and not in-between. I'm not aware if there's anything

12 Q Right. As far as what you could see from the river?

13 A As far as what I saw going through the area, but, again,
14 I'm going to say I was looking--

15 Q Okay.

16 A --specifically at the river.

17 Q Well, if one were to look at a U.S.G.S. map of the area,
18 one wouldn't see any--any roads--

19 A Well, the reason I'm hesitant to say, you can look at
20 the U.S.G.S. map and it won't show the oil and gas
21 thing that was developed two years ago by Doyon.

22 Q Um-hm.

23 A So that's why I say, I don't know that there isn't a
24 road there. I don't think so, though.

25 Q But that's within--that's not within the three townships

1 that we're specifically talking about?

2 A The three townships that you're specifically talking
3 about was transferred. You have everything to that,
4 free title and clear, subject to the final--other than
5 the pieces of land that we're talking about.

6 Q Yes, but the--the oil and gas pipeline, or whatever you're
7 talking about, is not within the three townships that
8 we're particularly concerned with here?

9 A I don't think so. But I'm not sure what you're getting
10 at.

11 Q Okay. I--you testified before that you didn't know where
12 the--where the exact seismic development--

13 A I testified that I did not--

14 Q --was.

15 A --think there was any here. I knew there was stuff
16 across from the Black River.

17 Q In another area, in another township--

18 A Twenty some air miles away.

19 Q --than what we're talking about? Okay. Now . . . Okay.
20 You also testified, with regard to the Nation River, that
21 when the water level was high it would require a relative
22 degree of competence to maneuver the river or to travel
23 down the river. Does that also apply to going up the
24 river, is that how you would characterize the skill
25 necessary?

1 A Well, if you're going up by poling, you'd better know
2 what you're doing.

3 Q Okay.

4 A And I'd say, yes, relative degrees of--of knowing how
5 to run a river.

6 Q Now, in your general characterizations of difficulties
7 for navigation on these rivers you were asked, you know,
8 what a generalized--summarized what some of the
9 difficulties are in negotiating these rivers. You made
10 the point at some time that you require a fair degree
11 of maneuverability to get around on these rivers. Now,
12 am I to understand that the more maneuverable your
13 craft is, the more easily you can go up or down the
14 Nation or the Kandik River?

15 A As long as you're not adding size to maneuverability,
16 yes. As you increase the length of your boat, no.

17 Q Alright. Well, let's--your experience on the Nation
18 is--is rafting down parts of it, as I understand.

19 A On the Nation.

20 Q On the Nation, during this August trip.

21 A Right.

22 Q The helicopter was taking you up to a certain point
23 and then you would raft--

24 A I--I feel that I can--

25 Q --for--for a while.

1 A --very adequately feel what it would be for a canoe or
2 a nineteen foot, based on my experience elsewhere.

3 Q Okay. But you don't have any personal experience on
4 the Nation--

5 A In a canoe or anything other than a raft?

6 Q In anything--

7 A No.

8 Q --other than a raft?

9 A No.

10 Q Alright. So you wouldn't know, of your own personal
11 knowledge, how much your--your maneuverability would
12 be increased or decreased in another type of craft
13 on the areas of the Nation that you were rafting on?

14 A (Pause) Would I know personally is not the same as
15 do I know.

16 Q Well, do you know personally? You wouldn't know
17 personally, would you?

18 A Well, since I'd previously testified the only place
19 that I've been is in a raft, that's not--that's
20 correct.

21 Q Alright.

22 A But that is something different that what you're leading
23 to.

24 Q In other words, what you're doing is making analogies
25 based on your general experience with other--

1 A On the Kandik.

2 Q --rivers?

3 A On the Fortymile, on the Charley--

4 Q Okay.

5 A --all in this immediate vicinity. Many times--

6 Q Right.

7 A --over the period of '72 through '78, for various
8 purposes.

9 Q But you are making analogies from other rivers, obviously,
10 to the--

11 A Right.

12 Q --Nation River?

13 A Right.

14 Q Alright. I also understood you to testify as far as
15 the Nation River was concerned that the--the shallowest
16 measurement you were able to obtain--or you--I wouldn't--
17 shouldn't say you were able to obtain. The shallowest
18 measurement you obtained on the Nation was some three-
19 tenths of a foot of effective depth, is that correct?

20 A (Pause) Yes, that's correct.

21 Q And--and how many times did you--did you obtain that--
22 that measurements? How many times did you encounter
23 that--that little water?

24 A (Pause) I counted it once in selection--at stations
25 in the selection area, at rod station seven. And that

1 was the only time, on the Nation. And that was in the
2 selection area, 36 Township, 8 North, Range 31 East.

3 Q Okay. Now, going back to your testimony about obstacles
4 on the river. Is it fair to state that--that there's
5 a relationship between the maneuverability of your boat
6 and the seriousness that any particular obstacle would
7 present to you, as a boater?

8 A Would you say that again? I'm not . . .

9 Q Okay. If--if your--if your boat's more maneuverable--
10 if the maneuverability of your boat's increased, isn't
11 it generally true that--that the seriousness of the
12 obstacle is decreased? In other words, if you're
13 in a boat that you can't maneuver, aren't you at the
14 mercy of--of eddies or currents or whatever, to a
15 certain extent?

16 A Alright. To--to--to the--to the last part, the answer's
17 yes. And to the other part, not necessarily, because
18 just the fact that you can maneuver a boat doesn't mean
19 that you're in a safe condition.

20 Q Alright. But the fact that you can maneuver the boat
21 obviously changes the complexion of the obstacles, does
22 it not?

23 A Not necessarily, because then what you--happens is that
24 you tend to get into areas where if something goes wrong--
25 it's like skiing. And you can go down the beginner's

1 slope and be challenged for a beginner's slope, but a
2 beginner has no business on a expert slope. It's the
3 same way with water. The fact that your boat is or
4 is not maneuverable is not nearly as important as the
5 skill of the operator.

6 Q Well, these particular rivers aren't classified as
7 expert slopes, to use your analogy, are they?

8 A If I was using high water and going upstream with a
9 ton of supplies, I certainly would.

10 Q But as a matter of fact, when you came down the Kandik
11 River in 1972, you classified it as a class one or
12 two on the--

13 A Right.

14 Q --international--

15 A On the international--

16 Q --difficulty rating?

17 A --for a canoe, not a ton of supplies with a motor.

18 Q Well, we're not talk--

19 A And that's--I--

20 Q Okay. Let's--let's make it clear that we're not talking
21 about--

22 A Okay.

23 Q --whether your boat's loaded, what you're carrying, where
24 you're going.

25 A The international rating that you're talking about for

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1 which I'm very familiar, applies only to recreational
2 boats. It does not apply to steamboats.

3 Q But we're not talking about steamboats. Isn't it
4 obvious that--that as the maneuverability of your
5 boat increases, your freedom to go where you want to
6 go on the river also increases?

7 A No. It's a function of several things. One is the skill
8 of the individual who's operating. It's also the size
9 of the boat.

10 MR. LUOMA: Let's assume that two operators
11 have equal skill, they have two different kind of boats. One
12 is more maneuverable than the other. Now, does the impediment
13 to navigation become a lesser thing to the man who has the
14 more maneuverable boat?

15 A If maneuev--if being able to maneuver's the criteria,
16 yes. It would be easier for the person who has comparable
17 equipment and greater skill to go upstream.

18 Q Thank you. Now, as--as far as the--the Kandik River
19 is concerned, do you have in your summary a reference
20 to the lowest effective depth that you found in your
21 measurements of the Kandik?

22 A Yes, I do. It's also three-tenths of a foot. It's at
23 rod station one, it's on a gravel bar, which is a
24 quarter of a mile long and--

25 Q And you--

1 A --thirty feet wide.

2 Q And you encountered that one time, on the Kandik River,
3 in your measurements?

4 A Excuse me. I encountered it twice.

5 Q Two times.

6 A I was at rod station two.

7 Q Alright. But that was not within the selection area?

8 A Neither of these were.

9 Q Alright.

10 A You ask if the measurements did I find (sic). Both
11 measurements were three-tenths.

12 Q How many recreational users did you observe on the Nation
13 River during August of 1978?

14 A None.

15 Q Okay. What about June of 1978?

16 A Three. Three boat. Three canoes.

17 Q And that was within what time period, I--

18 A It was August a--it was--we saw the same group twice--
19 or three times, going up and down. They were on the
20 Kandik, in-between our camp and the fuel supply.

21 Q Okay. I--

22 A And I saw them several times.

23 Q We've gotten--we've gotten confused. Let's go back to
24 the Nation River.

25 A None.

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1 Q None. In August or June?

2 A Right.

3 Q Okay. And the Kandik River?

4 A Three, August.

5 Q In August.

6 A All canoes, lightly loaded. I showed you pictures of
7 two of them.

8 Q Right. Okay. And that was within a two day period?

9 A Well, we saw the same people two different days. We
10 were flying up and down. In other words, I had repeated
11 observations.

12 Q Okay. But you saw three different parties--

13 A Yes.

14 Q --on the Kandik?

15 A Yes.

16 Q What about in June of--

17 A None.

18 Q --1978?

19 A June of '78. None.

20 Q And in your hunting trip of 1975 up the Kandik how
21 many parties did you see on the river?

22 A Alright. Let's see, there was one party, and I'm going
23 to say party, because I don't know how many people were
24 there. They was camped at the cabin at the slough immedi-
25 ately upstream from the mouth. There's a cabin right

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1 there. There was another group at Sarge Waller's (ph)
2 cabin. And I don't know whether it was Sarge Waller.
3 Which is in the same general area, on the mouth, is
4 the lower half-mile. At three mile camp, which is--
5 at that point in time, there was a major log jam,
6 there were one, two, three river boats. That's about
7 three and a half miles upstream. I encountered one
8 of those riverboats later, during the time I was higher
9 up, that went by me and that was below Johnson Gorge.
10 I do not know how he went. It was one of those. When
11 I came back down one of those river boats had been
12 turned over on the bank and they were preparing a hole
13 where the whole bottom had been bashed in. I saw--
14 now that's recreation. And myself would be another
15 one.

16 Q Would you--

17 A In that same period Fred, who has the cabin at three
18 mile, was also going out by canoe, down the mouth to
19 run his fish camp.

20 Q Okay. Would you characterize the recreational use on
21 the Kandik as heavy?

22 A No.

23 Q How would you characterize it?

24 A Very light.

25 Q How does BLM officially characterize it?

1 A I don't think BLM has official characterized it at all.
2 How's BOR classify it, I don't know. What did I do
3 when I was with BOR, I'm not really sure. But I would
4 of called it light, if I called it anything. I'm not
5 sure anybody asked me.

6 Q You would disagree with the reservation of an easement
7 then, in this selection area, along the stream bed--

8 A Not necessarily--

9 Q --of the Kandik?

10 A No, because the criteria for easements did not have to
11 do with use, they have to do with access. And since
12 this particular selection cuts off a piece of public
13 land, and let's assume that for some reason Doyon chose
14 to select nothing else, in other words, of--let all
15 the rest of the selections go, except these, we would
16 still request an easement, in order to get upstream
17 or downstream for this. And it--it's a shoreline ease-
18 ment, which was a class, not use.

19 Q Are you aware--

20 A That's the under guidelines.

21 Q Are you--

22 A The other--

23 Q --are you aware that in the decision for interim
24 conveyance in this selection area that BLM reserved
25 a--an easement along the bed of the Kandik River, because

1 of heavy recreational use by boat?

2 A Nope.

3 MS. TAYLOR: Okay. I have no further questions.

4 MR. LUOMA: Miss Higgins.

5 BY MS. HIGGINS:

6 Q Yesterday we saw ninety-five, I think ninety-five, slides
7 of the Nation River. How many of those were taken during
8 August 3rd through 5th, 1978?

9 A Most of them.

10 Q All but ten, fifteen--

11 A I--I--

12 Q --would you guess?

13 A --without counting, I'd just say most of them.

14 Q Okay.

15 A Now, that's both of them, right? The Kandik-Nation.

16 Q Well, I'm referring to--only to the Nation now.

17 A Okay.

18 Q Out of the ninety-five slides we saw on the Nation
19 all but perhaps fifteen were taken during August 3rd
20 to 5th, 1978?

21 A The Nation?

22 Q The Nation.

23 A I don't think that's correct. I think I did have
24 quite a sprinkling of ones in June, particularly around
25 Hard Luck showing the differences in water level. Now,

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1 how many in total--but on the Nation there was quite a
2 few showing high water. And then the counter part.
3 Now, remember at Hard Luck I even had some aerials of
4 '72, August--August '78, and June '78. Now, how many
5 I don't know.

6 Q Well, I'm not--I thought maybe you would have some.
7 I'm not sure my notes are entirely--entirely accurate,
8 but I didn't come up with more than--than fifteen.
9 And some of those were--were shots of cabins, not really
10 showing the--the water level. But if--at any--in any
11 event, the great majority were taken August--during
12 early August '78. And it's been your testimony that
13 the river was low at that time, is--

14 A It was--

15 Q --that right?

16 A It is what I would consider typical for that type of
17 year. It was a little bit lower than it had been
18 previously, but it is not below what I would have
19 expected at that time of year. When we saw it in June
20 it was much higher than I had expected to see for that
21 time of year.

22 Q Well, is it your testimony then that the water level
23 depicted in the slides we saw taken August 3rd through
24 5th of the Nation was typical of water we'd find through-
25 out most of the summer?

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1 A Throughout most of the summer, subject to having a
2 rain storm. Now this again is after break-up is gone.
3 You've got that first flush with the snow going off.
4 You would tend to have that type of water characteris-
5 tically more often, unless you have a rain. The basin's
6 too small. You have no major springs--

7 Q Are you basing this--

8 A --to take it all very quickly (ph).

9 Q --this--are you basing this testimony on--on general
10 knowledge and experience of--of Interior Alaska rivers
11 or on something else?

12 A Yes. Interior rivers experience specifically in this
13 general area in--in the connection with all of the work
14 that was done on the Fortymile, the Charley, the Yukon,
15 the Kandik. I have not done too much work on the Nation
16 I've been across the area and I think I've indicated
17 when, where, and for what purpose.

18 Q Would you be surprised if--if the river were actually-
19 at its lowest stage--

20 A I would be--

21 Q --during the summer season--

22 A --surprised. Because I don't think anyone knows what the
23 lowest stage is, because for all I know only--there's
24 only been two sets of measurements taken.

25 Q Okay.

1 A So I don't think--you know, all we know at this point
2 is two points and how that, in turn, fits typical
3 curve. So I would be very surprised if this is the
4 lowest. In the same way that I would be very surprised
5 if the June one was in fact the highest.

6 Q Flow measurements were taken in June and August. Rod
7 measurements were only taken in August.

8 A Right.

9 Q Can you explain, again, why rod measurements were not
10 also taken in June?

11 MR. LUOMA: Do we really have to go through
12 that again? Has--has he not been asked and answered that
13 several times?

14 MS. HIGGINS: Not to my satisfaction, Your
15 Honor.

16 MR. LUOMA: Alright. Go ahead. Let's have
17 one more try at it.

18 A It's not safe to take it when the water's high. You'd
19 have to wade out across the bar.

20 Q Okay. How many slides did you take in total of the
21 Na tion River during--during August--early August, 1978
22 on your--your measurement trip?

23 A Say again.

24 Q How many slides in total did you take? How many--we
25 saw ninety-five, how many did you select among to show--

1 show us those ninety-five?

2 A Several hundred. I took--(indiscernible--simultaneous
3 conversation)--

4 Q Why did you chose the ones that we saw?

5 A Most of them were duplicate shots of the same area.
6 Some of them were like the Betts (ph) trip, which was
7 written up in the Alaska Magazine. We had access to
8 those. I looked at them, I could not identify exactly
9 where they were. You know, this sort of thing. Some
10 were bad exposures. As I indicated, I had camera
11 malfunction, another thing.

12 Q In deciding where to take your rod measurements you
13 looked for shallow water, that is gravel bar obstructions,
14 didn't you?

15 A Yes.

16 Q And when these rod measurements were taken, you were
17 flying by helicopter by measurement point to measurement
18 point along the rivers, you were not travelling in a
19 boat on the river?

20 A That's correct.

21 Q Okay. And you didn't actually attempt to navigate the
22 Nation during the early August time when these measure-
23 ments were taken?

24 A I wouldn't have attempted to.

25 Q Pardon me? I--

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1 A I would not have attempted to, even--

2 Q But you did not--

3 A --if I--

4 Q --you did not?

5 A No, I said I would not have.

6 Q That wasn't my question.

7 A I did not.

8 Q Okay. So all of your comments regarding the possibility
9 or difficulty of getting a boat across bars, various
10 shallow places we saw in these pictures, was really
11 your prediction or supposition based on previous
12 experience in these and other rivers, is that right?

13 A Say again.

14 MR. LUOMA: You didn't actually pull a boat
15 over those bars, did you?

16 A I had pulled a bo--boat over some of the bars in
17 September, but not when I took the measurements in
18 August.

19 Q Alright. Okay.

20 A September of '72.

21 Q Not in the Nation River? We're--I'm talking about the
22 Nation.

23 A On the Kandik I had. Now, again--

24 Q Okay. I--I'm sorry.

25 A Just a minute.

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1 Q I thought I'd made it clear I'm talking about the
2 Nation.

3 A Well, I thought I'd made it clear that I'd only been
4 down the Nation once previously before. That was in
5 June and it was by raft and that I took no measurements.

6 Q Okay. You . . . your testimony in connection with
7 some of these slides was not limited to difficulty in
8 navigating those spots during shallow water, which we
9 were viewing, but you added comments about hazards,
10 difficulty during high water, did you not?

11 A Yes.

12 Q Okay. You--you actually navigated the Nation River during
13 late June, 1978, correct?

14 A On high water.

15 Q Okay. What--from which point to which point, if you
16 know?

17 A From a quarter of a mile downstream from Jungle Creek,
18 which is above the selection area, through the selection
19 area to Hard Luck Creek. And we camped in-between--
20 we camped at Hard--at--at Jungle Creek, that vicinity,
21 below the area, and at Hard Luck. We had a helicopter
22 access only at the upstream and downstream point.

23 Q You were in rafts, is that right?

24 A That's correct. Slide--I think the second slide showed--
25 on the series showed the actual people and the vessels.

1 Q How maneuverable are rafts, as compared with canoes?

2 A Canoes are considerably more maneuverable.

3 Q Were the me--numbers of your--your party experienced
4 in river travel?

5 A I think I had one novice.

6 Q Did you successfully navigate on that trip, the Nation
7 River, between Jungle and Hard Luck Creeks, without
8 major mishap?

9 A Yes.

10 Q Alright.

11 A I also switched parties, too.

12 Q You answered my question at any rate. I'd like to
13 particularly ask you about the places in the river
14 represented by slides sixty-nine, seventy-three, eighty,
15 and eighty-seven.

16 A This is on which one?

17 Q The Nation.

18 A The Nation.

19 MR. ALLEN: Should we flash those slides up?

20 MS. NEVILLE: I think this is Kandik.

21 MR. ALLEN: Miss Higgins, do you need those--
22 those slides back up?

23 A I'm going to need them, because I--I'm not sure where
24 we're going.

25 Q Can you look at notes and tell where those were? I

1 mean, I'm not certain that they were all--

2 A Oh. Oh.

3 Q --within the area--

4 A Oh, alright.

5 Q --that I think they are.

6 A If--if your question is--is where are they, because--

7 Q It might be helpful if we saw them briefly, too.

8 A Alright. Which--which--

9 Q Sixty-nine, seventy-three, eighty, and eighty-seven.

10 A Now, this is on the Nation?

11 Q On the Nation.

12 MR. LUOMA: It better be, the numbers are
13 too big.

14 A Sixty-nine is--without looking at the slide, is at a
15 point between twenty-six and thirty-four miles. I'd
16 have to look at the slide and tell you exactly where
17 it is. It's labelled and my notes don't tell me.

18 Q Did you navigate this portion, in your--your June
19 raft trip?

20 A Yes. I believe on--that we did. I could not tell you
21 which side we went on. We obviously didn't go in the
22 middle.

23 Q That--that log jam did not--

24 A That was--(indiscernible--simultaneous conversation)--

25 Q --present any particular problems to you?

1 A It could have.

2 Q Well, you don't remember that it did, do you?

3 A No, I do not remember that it did. I do remember that
4 we had trouble with some. Now, whether this one did
5 or not--

6 Q Yeah. When the water was higher there was a lot more--

7 A Using this slide as an example--

8 Q --water in which to get around that jam on the left
9 hand side, wasn't there?

10 A Yes. But what we're looking at is an ar--very small
11 area of stream. I can not tell you what is upstream
12 from this particular slide, immediately, or downstream
13 either. But you'll notice a log jam, up here's another
14 one here. You can see your trees up here. So--

15 Q I see a lot there, but I see very little water in that
16 picture.

17 A I--

18 Q When the water was higher--(indiscernible--simultaneous
19 conversation)--

20 A You asked me in June. Okay. The water in June, as you
21 can tell from about here, has been flowing through
22 here and these become hazards. Here is some down here
23 in the bottom.

24 Q Do you remember--

25 A No, I do not.

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1 Q --difficulties with those hazards--

2 A I do in two points.

3 Q --which you--(indiscernible--simultaneous conversation)--
4 the amount of water?

5 A I do in two points.

6 Q Okay. But not here?

7 A I can not say that this is one. That's--you know, I
8 didn't take notes, "I had--I had a hazard at this
9 particular exact spot".

10 Q Alright. Slide seventy-three.

11 A Seventy-three is a closer view of--or is a different
12 it's just a . . . Okay. This is the same slide I
13 think we were just looking at. Can you back up a minute?
14 We were on which one?

15 MS. NEVILLE: Sixty-nine.

16 A No, that's not.

17 Q Okay. According to my notes you mentioned that in
18 higher water those logs would be submerged and might--
19 well--well, I didn't quote you exactly. The gist of
20 your testimony was if you--a canoe or a boat got caught
21 in them, there could be an upset and a good chance of
22 drowning.

23 A Yes.

24 Q You represented it as a very significant hazard during
25 high water, which were not seen here?

1 A Yes. And the logs specifically that I was referring
2 to at that point are the ones coming out into the
3 channel at right angles. And you'll notice here are
4 several logs. That's about--

5 Q Okay.

6 A --twelve inches above the water at this point. You
7 have another one that's submerged here. Here's one
8 that's coming out. Here's one that's submerged. Here's
9 one that's coming across and touching into the water.
10 Here's another. And I think we saw several slides that
11 had--it's--the log jam itself--the log jam itself, which
12 is above water, isn't your problem, particularly if the
13 water's not flowing through it.

14 Q Okay.

15 A If the water's flowing through it--

16 Q My question--

17 A --or this way, right down here, that's where your hazards
18 are.

19 Q Well, my next question is when you went through there
20 in June, on rafts, did you have any problem there?

21 A I can not tell you that I did.

22 Q You don't remember--

23 A I don't recall.

24 Q --that you had a problem--

25 A No.

1 Q --there?

2 A No.

3 Q Do you think it's likely that you'd remember if--that
4 there--if someone had gotten caught--

5 A Alright.

6 Q --in these logs?

7 A Now, are we talking recreation or are we talking moving
8 the--(indiscernible--simultaneous conversation)--

9 MR. LUOMA: No, we're talking about the trip
10 you took.

11 A Yes.

12 MR. LUOMA: Stick to the trip.

13 A No trouble.

14 Q Okay.

15 A Sorry.

16 Q Slide eighty. Well, I'm not sure this is the one I
17 meant. I think that--I think you--you--in commenting
18 on the shallowness of this place, I believe you said that
19 a person would have to line a boat up here, through this--
20 through this area.

21 A This is in the selection area.

22 Q I think--first of all, did you float this in--in--in--
23 is this part of the area that you covered during your--
24 your . . .

25 A Going downstream.

1 Q --your June trip, right?

2 A Yes.

3 Q Did you have to line your boats during this June trip?

4 A You don't line going downstream, as a rule.

5 Q So your comment that a person would have to line a
6 boat up here was--

7 A Was going upstream.

8 Q Is it your testimony that regar--at the June water
9 level a person would have to line a boat up this--

10 A No.

11 Q --up this area?

12 A It is not.

13 Q So your testimony was limited to this particular day,
14 this particular water level--

15 A If you're coming up through here, you de--and you--

16 Q Okay.

17 A --had a boat that drew more than three inches--or three
18 tenths of a foot, again large boat, you would have to-
19 get out. Wouldn't have enough water.

20 Q Were your rafts--

21 A You'd have to pull it.

22 Q --grounded when you passed through this area in June?

23 A We went through in high water.

24 Q No problem?

25 A We went through in high water, that's right.

1 Q So there was no problem, is that right?

2 A No.

3 Q Okay. Eighty-seven, please. (Pause) Now, I believe
4 this is a picture taken during June 20th, is it--is it
5 not?

6 A Yes.

7 Q Okay. Your June trip.

8 A It's in the selection area.

9 Q You co--you--you commented that the sweeper hanging
10 out above the water presented a hazard that anyone going
11 down with--without control or relative competence would--
12 well . . .

13 A That's why we switched--

14 Q --would be unsafe--

15 A That's why we switched people.

16 Q Okay. You--you did have some problems here?

17 A Yes.

18 Q Alright. Would a person familiar with the river,
19 experienced in boating, have had any trouble?

20 A They could have. In fact, an experienced boatman was
21 also in that boat at that time.

22 Q Again, you were using rafts?

23 A That's right. Rafts, which is not--

24 Q Okay. Would an experienced boatman familiar with the
25 river, with a more maneuverable craft, likely of had a

1 problem?

2 A On that particular picture, no.

3 Q Okay. (Pause) I think I'd like to address myself to
4 the Kandik now. That's all--that's all the Nation slides.
5 (Pause)

6 MR. ALLEN: How does this one go in, Jules?

7 A You have to drop it clear around with the slot on the
8 right hand side. (Pause) It--the slide carousel itself
9 is not down. (Pause) Is there a slot that says zero?

10 MR. ALLEN: Yeah. Which one do you want?

11 Q Kandik sixteen is the only one I want to see up close (ph).
12 That's it.

13 A (Pause) I believe that sixteen was the same slide that
14 we started out with with Miss Taylor. I can go on that
15 one from memory, if you can. That was a slide of--

16 MR. LUOMA: Off the record.

17 A --of four or five--

18 MR. LUOMA: Just--just a moment, please.

19 Let's don't--

20 A Okay.

21 MR. LUOMA: --clutter up the record. Off the
22 record.

23 (OFF THE RECORD)

24 (ON THE RECORD)

25 Q My question, with respect to slide sixteen, is when the

1 water is higher, couldn't a person easily avoid any--
2 the log jam that--that might exist on the left bank
3 by going to the right around them?

4 A They could avoid that. But, in turn, picking up other
5 obstructions. And I think slide seventeen shows that
6 slide--same area looking downstream. And it shows the
7 things that are hanging up on the bar also that you would
8 then be navigating around.

9 Q In high--

10 A There is room.

11 Q In higher water, though, you'd have a--

12 A You would miss--

13 Q --significantly increased width of--of channel there--of--
14 of--of water in your channel?

15 A Width of water, yes.

16 Q Okay.

17 A Depth of water, no.

18 Q (Pause) In higher water, though, the hazard, if any,--
19 posed by tho--those logs that we see in the middle there
20 would just not--would not be as significant, would they--
21 would it?

22 A Those particular wouldn't be, but you would be picking
23 others up in the same general area.

24 Q Is it your testimony that with higher water those logs
25 we see in the picture now would be in the same location?

- 1 A Yes.
- 2 Q They would?
- 3 A Yes.
- 4 Q Log--
- 5 A Those logs--
- 6 Q --log jams--
- 7 A --those logs are hung on--
- 8 Q --are permanent obstructions?
- 9 A --those logs are hung on the bottom.
- 10 MR. LUOMA: Now, please, one at a time.
- 11 A Okay.
- 12 Q Are log ja--is a log jam, such as we see there, a
- 13 permanent obstruction?
- 14 A If it remains there several years at a time, yes. If
- 15 it remains forever, no. But you would collect other
- 16 logs.
- 17 Q Do you know how long the--
- 18 A No, I do not.
- 19 Q --that particular jam has been--
- 20 A No.
- 21 Q --has been there? You mentioned seeing at least one
- 22 canoeist on the river the same day you took these
- 23 pictures.
- 24 A I'm not sure the--we're on the Kandik?
- 25 Q Yes, this is the Kandik slide sixteen.

1 A There were three canoes. Three groups on three different
2 times.

3 Q Okay. Three groups. Isn't it likely that those groups
4 got through this area?

5 A Certainly.

6 Q How do you think they did it?

7 A They walked on the right hand side. Walked. And that
8 was what I said. They would have to line around it.

9 Q Okay. They lined a canoe along the right hand side--

10 A They walked upstream.

11 Q --of those--

12 A That--

13 Q --of the jam?

14 A That would be my guess. And that's purely my guess.
15 I did not see them do it.

16 Q For--for--for what, ten yards there--

17 A Right.

18 Q --on the jam? Okay. That's--that's all the questions
19 I have on slide sixteen. No more slides.

20 MR. LUOMA: Are we through with slides now,
21 everybody?

22 MS. HIGGINS: Yes.

23 MR. LUOMA: Miss Neville, have you thought
24 of any further questions?

25 MS. HIGGINS: Oh, I'm sorry, Your Honor. I

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1 have further questions, but no more slides involved.

2 MR. LUOMA: Oh, I'm sorry. I'm sorry.

3 Q (By Ms. Higgins) You've made reference to taking field
4 notes during your Setpember 1972 trip--

5 A Yes.

6 Q --from the headwaters to the mouth of the Kandik.

7 A That's correct.

8 Q Do you have those notes with you?

9 A Yes, I do.

10 Q When did you write your field notes?

11 A They were taken upon (ph) tape and transcribed when
12 I got back to the office. They're summation of day
13 after day of--in other words, the notes were taken
14 on the river, that night recorded, and then transcribed
15 when I came back.

16 Q Transcribed in close proximity, time-wise, to your trip,
17 is that right?

18 A Yes.

19 Q Okay. And that was well before this appeal was filed,
20 right?

21 A These were done--let's see, this is September. They
22 probably were done no later than mid-October of '72.

23 Q Okay. (Pause) Was the--the summary at the beginning
24 of the field notes done contemporaneously with the
25 field notes?

1 A I'm going to have to--you're going to have to confin--
2 or define contemporaneously.

3 Q Did you add the summary after you had--had transcribed
4 your field notes--

5 A Yes.

6 Q --from your tape?

7 A Yes.

8 Q How long after?

9 A The same time.

10 Q Okay. So it's relative--within the same time period?

11 A Yes. This wasn't--

12 Q Okay.

13 A --done a year, is what I'm saying.

14 Q Okay. (Pause) Would you read the fifth paragraph of
15 the first page of the summary, one line paragraph?

16 A "The rapids are almost absence, making this an excellent
17 canoe-camping stream, requiring many--minimum canoeing
18 ability".

19 Q Okay. Minimal canoeing ability. This--this--this was
20 an accurate summary--

21 A No.

22 Q --of your--your trip--

23 A No, it is not, because the next paragraph further
24 qualifies that statement.

25 Q Okay. Let's read the next paragraph.

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1 A The next paragraph says, "water classification, using
2 the international difficulty rating, is one class or
3 two class. However, sweepers are a real threat and
4 must be avoided. The lower two-thirds of the river
5 where a recent forest-fire occurred is extremely dangerous
6 because of sweepers. Soil and topography are such that
7 the entire"--it says, "dots", it should be, "spots of
8 standing burned trees are sliding into the river. The
9 current is swift and it quickly removes single trees
10 across the river by sweeping the entire--single trees
11 across", that's a sweeper hanging off the bank, "across
12 the river, by sweeping the entire stream tip downstream,
13 or against the bank. However, bends in the lower river
14 collect snags and hold trees at such points. It is
15 anticipated that log jams will develop to the extent
16 to completely block surface downstream or upstream move-
17 ment of water craft." And I think slide sixteen, taken
18 in August of this year, is a summation of the type of
19 statement that is meant there. Not--

20 Q Well--

21 A --a physical dam, but that you've got to get out and
22 go around.

23 Q Okay.

24 A That was what that statement, which was written--

25 Q And what does--

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1 A --said--

2 Q And what does your statement that the stream requires
3 minimal canoeing ability refer to?

4 A That means that you can take a lightly loaded canoe,
5 under normal water conditions and be okay, if you watch
6 out for the sweepers.

7 Q If you take precautions against sweepers?

8 A Yeah.

9 Q Okay.

10 A But this--

11 Q Still, your overall characterization was that the
12 Kandik River was suitable for people with at most
13 intermediate canoeing skills, is that right?

14 A That would be correct.

15 Q Alright.

16 A Intermediate. Not minimal.

17 Q Well, you said minimal here, but taking into account . . .

18 A Well, intermediate has precise . . .

19 Q (Pause) Can you indicate anywhere in the field notes
20 where you have recorded difficulty with sweepers or
21 gravel bars? Obstructions--

22 A In these--in these--

23 Q --and whatever?

24 A --field notes?

25 Q Right.

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1 A Yes. The paragraph that I just read you and--

2 Q Well, that was part of the summary. I'm--

3 A Okay.

4 Q --I want you to go to your day by day field notes and
5 show me where you--you indicated trouble with hazards
6 or obstructions in the river.

7 A (Pause) September 6. "Left camp approximately eight-
8 thirty". This is in Canada. We were still well above
9 the Big Sitdown Creek. And we arrived there at four
10 o'clock in the afternoon, camped subsequently down.
11 So the notes refer to the area from where we put in,
12 in Canada. And it's the third paragraph on page three.
13 And it says as follows, "the river's about fifty feet,
14 more or less, wide. It's Catapunt (ph) in size". That's
15 a river in West Virginia for which we do quite a bit
16 of canoeing on. The depth average is probably two feet.
17 Again, the water was turbid, I did not have any precise
18 measurements. If you stick your paddle down every once
19 in a while, you'd see how far it goes down. However,
20 we are seeing it just after rain, the river's receding.
21 There prob--there probably are shallows in this area
22 where you would have to walk across. "We walked across
23 a couple, because we chose the wrong branch this after-
24 noon". Now, that's--I'm an experienced canoer, so there's
25 September 6, referring to shallows in the vicinity between

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1 the border and the Big Sitdown.

2 Q Well, it doesn't say that you--you--except for taking
3 a wrong branch, you didn't ha--you didn't have to--to--

4 A Alright.

5 Q --get out of your canoe, did you--

6 A Remember, I'm an experienced canoer. And I had problems
7 I just had to get out and walk.

8 Q You took the wrong branch?

9 A Right.

10 Q Alright. You mentioned that the water was--was turbid--

11 A May I finish--

12 Q --what do you mean by turbid?

13 A May I finish looking through my notes and see if there
14 are other places or do you want to pursue that--

15 Q Well, I have one more question--

16 A Alright. Okay.

17 Q --with regards to comments you made before reading that
18 part. What do you mean by turbid water?

19 A It isn't clear, as we saw on August. And it isn't dirty,
20 like we saw in June. Which, again, is an indication
21 that the water is receding, it's been high, you can
22 see where the water marks were. I pointed them out on
23 the--on the take-off, as an example, we were there.
24 And the water is clearing and it still has a--a brownish
25 cast and you can not see the bottom clearly, but it is

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1 not muddy like it was in June of this last year. So
2 it's an intermediate stage.

3 Q Well, you--you meant what you--you said on the first
4 page of your field notes, it is running generally clear,
5 a slight brownish cast, is that turbid?

6 A No.

7 Q No?

8 A No. Because that again is referring--this is a clear
9 water stream. And, again, these are general notes
10 referring as a clear water, as opposed to a glacial
11 stream. Glacial streams being those that arise of
12 glaciers. The turbid is describing the stream on
13 September 6th, in the upper reaches.

14 Q Where is that indicated in your notes? Are--are you--

15 A I thought I just read it. (Pause) Did I miss something?

16 Q Well, the word--description of the clearness of the water
17 is nowhere in the notes that I have. Maybe I have
18 different notes, except on the first page.

19 A Okay. That could be.

20 Q Okay. Alright. I interrupted you. Were you looking
21 for other examples--

22 A I--I don't know. That's the first one I'd come to.

23 Q --of how--

24 A And that was--I didn't know whether you wanted to stop
25 or wanted to proceed. (Pause) Page four, bottom para-

graph. "In terms of hazards, the basic thing is sweepers. There's not the conventional sweepers that come completely across the stream, as the swift current scopes them back against the bank. However, whole trees are sometimes lodged in the center of the stream, roots upstream. Sweepers lined against the bank are almost always found on the outside of curves. Caution is to be taken as the current is swift and unless one watches one's business, could easily end up in trouble. A canoe lodged in a sweeper against the bank would be extremely difficult to lod--to dislodge, because the swift current--because of swift current here. We estimate the current as moving five to six miles an hour and could, in fact, trap--trap someone, if not car--careful". And that's on page five.

Q Okay. I'd like you--

A It's referring to my notes on August 7--or August 6th.

Q I'd like you to continue to read the next paragraph, please.

A Alright.

Q (Indiscernible--simultaneous conversation)--

A "The headwaters of this part though are certainly an intermediate skill level for open canoes. The river would be considered suitable for novice on the outside. The basic distinction being that you can't make a distinct--make--can not make a mistake on the Kandik, as you would

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1 have no help".

2 Q By suitable for novice on the outside, did you mean in
3 the Lower Forty-eight?

4 A On the Cacapin (ph) River, where you've got a road
5 immediately adjacent. And normally where you're going
6 in groups of ten to fifteen people, as opposed to solitary
7 traffic here.

8 Q While you noted--

9 A That's August 6th. Let's see if we have something
10 else.

11 Q Let me--

12 A Page 6. Middle paragraph. "Water character becoming that
13 of a large river. Some of the rivers are approaching
14 class three, in terms of complexity. The current--but
15 all straight chutes". This happens to refer to the
16 Johnson Gorge area, which, as I said earlier, I did
17 not count as navigation hazards. "Standing waves (ph)
18 about three foot high are rare and these can be avoided
19 by skirting on the edge. One abandon cabin, apparently
20 the trapper's cabin", for which we had the photograph
21 of. "And a cache on the right to the bank observed
22 today below Indian Grave Creek. Picked up a tooth
23 rust wolf tap at high--trap at high water, near our
24 camp site".

25 Q What--what was the hazard mentioned in--in that paragraph?

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1 The--the rapids?

2 A I'm sorry, I don't get your point. Did I say hazard?

3 Q Well, I thought you were reading back to me examples
4 of places where you've indicated trouble with hazards
5 during this trip.

6 A Class three is the limit of the international rating of
7 an area where you can run safely a fully loaded canoe.

8 Q Okay.

9 A And it normally--since it is geared to recreational
10 travel--that international rating is geared to recre-
11 tional travel, it would not take into account, as an
12 example, a nineteen foot loaded with three or four
13 hundred pounds of gear. That's more gear than you
14 would--customarily be used. So, in terms of upstream
15 or downstream use by a heavily loaded, it is pertinent.

16 Q You had no trouble in this particular place?

17 A With a seventeen and a nineteen lightly loaded. On
18 decreasing, but high water.

19 Q How high was the water, in your estimation? High as
20 compared with what?

21 A It would of been intermediate, between what we observed
22 in June, on the . . . Nation, and measured. And what
23 we saw by air on the Nation and was measured by someone
24 else. And what I saw in August. It would be someplace
25 in-between. It was not as high, but it was close to that,

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1 than it was then. And as I said earlier, it'd been
2 raining for several days. (Pause) On page eight, which
3 is talking about rapids, they're more numerous, a little
4 bit heavier, but still not above class two. All can
5 be skirted with a minimum degree of difficulty, referencing
6 a canoe. Only one, about two to three hundred yards long,
7 required any maneuvering. This was a boulder field, which
8 is a rock garden. Where it required to start to the left
9 side and move to the right, and come back to the left, on
10 a left turn, in order to keep to the inside. (Pause)
11 Page nine, referring to the lower river, all (ph) September
12 9th. "Travel distance down the Kandik today about thirteen
13 and a half miles. The general character river--of the
14 river once we left the valleys of the mountainous area
15 and came out into the flats showed a very pronounced
16 change in the lower area. In particular sweepers were
17 more abundant. The water although moving did not seem
18 to move at a--with a--with quite the vigor that it did
19 in the higher areas. Here sweepers are definitely a
20 problem and care must be used as the stream, in several
21 places, become braided into several channels. Also,
22 because of the fire of last year trees and sometimes
23 considerable portions of hillsides are sliding directly
24 into the river. This next year, and probably the next
25 several years, will show an abnormal number of sweepers,

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1 therefore care should be required in canoeing in this
2 area for the next several years". I would, however
3 modify that--just that statement on the Kandik, based
4 on my observations on the Nation this last year, for
5 which there was no fire, and there were just as many
6 sweepers. So I would say that the condition of sweepers
7 in the river area, year after year, talking about the
8 river area as a whole, not in any specific point, would
9 be very typical to what you saw on the August slides.

10 Q When was--

11 A Now, that, again--

12 Q --when was--when was the--the Kan Fire (ph)?

13 A --is qualified with my November . . . It's the name
14 of the fire that burnt at Johnson Gorge. It was named
15 the Kan Fire, short for Kandik.

16 Q Did it burn a significant amount of--

17 A I--it was a large fire. How large, I don't know. It
18 was supplied by helicopter. The base was there at the--
19 at that cabin, just above Johnson Gorge.

20 Q And it's your--is it your testimony now that you don't
21 think that fire is--contributes to the number of sweepers
22 that you saw--

23 A It is--

24 Q --during this trip and--

25 A It is--it is my testimony now that the statement that

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1 was made in '72 for the Kandik River, that the fire was
2 producing an abnormal number of sweepers, I would no
3 longer hold to, based on my observations on the adjacent
4 river of similar size. And it had just as many sweepers
5 and no major recent fire.

6 Q Do you know that for a fact?

7 A In terms of hillsides directly on the river, yes. And
8 that's what this was. In other words, the fire on the
9 Kandik that was causing the problem was directly at
10 Johnson Gorge and it was burning up the slopes, the
11 perma-frost melted, and the whole slides--sides of the
12 hill literally slumped into the river. The Kandik doesn't--
13 or the Nation doesn't have that kind of thing. And yet
14 it still showed many, many sweepers.

15 Q Okay. (Pause) Did you take slides during your September
16 trip on the Ka--September '72 trip on the Kandik?

17 A Yes, I did. One of them was shown with the moose.

18 Q How many slides do you have?

19 A I think there were thirty-eight. They were taken for
20 a different purpose, though.

21 Q And one of them was shown today?

22 A Yes. I believe you've seen them all. Or Richard has
23 seen them. They're on file with BOR. They're--they're
24 part of the official files.

25 Q Why--why did you show me one of those slides today--

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1 A Because the rest of them--

2 Q --and the rest taken from August 4th and 5th, 1978?

3 A Because I was not able to precisely identify where
4 those slides were taken. I did not--in other words,
5 when--when I was going out this summer, I was going
6 out with a specific purpose. And that was to get
7 physical measurements of water depth. When I was
8 coming through in '72, I was looking at land use, I
9 was looking at what had been going on in the general
10 area, and the susceptibility of that river for recre-
11 ational use. Now we're talking about susceptibility of
12 the river for navigation and that's an entirely different
13 thing.

14 Q Well, when you--

15 A And I could not--

16 Q --when you went out in early August, 1978 you were
17 preparing for this hearing, isn't that right?

18 A Yes. Without question. That was the whole purpose.
19 This is the first major hearing that we've had in the
20 State of Alaska dealing with navigability. And we
21 needed to get good information, both at high water,
22 which we collected, and at low water, which we collected,
23 so that we've got something to go from.

24 Q Okay. (Pause) Do gravel bars remain stationary, year
25 after year?

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1 A Generally, yes. They change in character, locally.

2 Q Do you know about the existence and location of bars
3 and sweepers in the Kandik and Nation channels between--
4 well, around the time of Statehood?

5 A No, I wasn't here.

6 Q (Pause) Do sweepers stay in place, year after year?

7 A No. A individual tree--and I think my notes commented
8 about it, as soon as the tree falls out, they'll remain
9 there maybe for a year and then disappear. A--a comparable
10 example is Ship--or not Ship Creek, what's a small creek
11 through Anchorage?

12 MR. ALLEN: Campbell. Campbell. Campbell.

13 A Campbell Creek. On Campbell Creek, and that's a stable--
14 relatively stablized area, it's a very small stream,
15 considerably smaller than this, so the only reference is
16 to sweepers. I canoed that regularly in the summer time
17 for personal recreation after work. And I ran it on
18 Saturday. I ran it again on Wednesday. During that
19 time the water'd been up and there was a tree that had
20 just fallen over. And it was laying completely across
21 the thing. Sunday--Saturday it was standing up, no
22 sweat. Three days later, it had fallen over. If I would
23 go back now, after high water, that tree would be swept
24 back against the bank. This is the same sort of thing
25 that happens here. The tree comes down, the water--high

1 water will pick it up and actually swing it in. It--
2 at the same time that's swinging in, it's undercutting
3 someplace else and another one topples.

4 Q Would you say that sweepers then are not a permanent
5 obstruction?

6 A Any one individual sweeper in any one individual site,
7 no. In general locations, yes.

8 Q What do you mean by that?

9 A You con--as long as you've got a cutbank and that cutbank
10 has trees on it, you're going to have sweepers. Now,
11 at the point the channel moves away from it and it's
12 no longer a cutbank, you no longer have sweepers.

13 Q Okay.

14 A The banks are constantly eroding, which means you get
15 new trees falling in.

16 Q Some of your--your slides indicated that the channels
17 of these rivers have changed over time.

18 A Yes.

19 Q Do we know where the channels were located at--at the
20 time of Statehood?

21 A I would say we probably have a pretty good idea, because
22 the 1956 one inch to the mile for this area, and I can
23 only qualify it for this area, is based on aerial
24 photography. I'm sure we could go to the archives and
25 get that 1956 aerial photography and have a pretty good

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1 idea, by giving it to specialist, as to whether those
2 channels are newly cut within the last several years,
3 whether they were stable, this sort of thing. You can
4 see the changes. You know, you can actually go back
5 and see some of the changes between the '56 map, which
6 is based on '56 photographs, and this photograph, which
7 was taken last summer. I--I can show you the channel
8 cha--they're relatively minor. It's not a typical--it's
9 very common. Happens in all of the Interior rivers.

10 Q Is there any accurate way to estimate the . . . the
11 existence and number of sweepers at the time of Statehood?

12 A No. That's like asking me how many trees are hanging on
13 the bank..

14 Q I agree with you. With respect to sweepers as a hazard,
15 is it fair to say that--that the presence of sweepers
16 needs to be considered, but it's not necessarily a
17 hazard for an experienced boat person?

18 A Un--unfortunately I'm very sad to say no. Dr. Walt
19 Blackidar (ph), who is one of the people who first ran
20 the Susitna Canyon, it was run the outside so--a
21 small kayak, has run many of the difficult streams
22 in the United States and the international--

23 Q Well, perhaps I should--

24 A --competition, run --

25 Q --limit my question--

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1 A --on a sweeper in Idaho this year.

2 Q Well--

3 A And he was one of the most expert people.

4 Q Okay.

5 A So, the answer is, yes, you must always watch for it.

6 Q Let--let me limit my question. I--apart from rivers
7 like the Alsack (ph), which is--is known to be a--

8 A He wasn't--he wasn't--

9 Q --very, very difficult river--

10 A --on the Alsack, he was on a small river in Idaho.

11 Q On these two rivers, which are class one and two, in
12 term--with respect to--to the rapids, to the general
13 amount of flow, would you say that sweepers are a hazard
14 for an experienced boat person, in a maneuverable craft?

15 A Alright. You're asking two questions. So, let me
16 answer--answer them separately.

17 Q That's--

18 A The international rating does not take into account
19 sweepers. Secondly, it does not take it into account,
20 it's not designed for sweepers. It's designed for a
21 current flowing over a stream. So the international
22 rating, when you say, one, two, three, four, five,
23 six, doesn't have a thing to do with the bank character-
24 istics. It is rating, literally, the flow and the
25 complexity of the water over a given piece of geography.

1 And it can be short, it can be big, or what have you.
2 You can boil it down to a ten yard stretch. But, it
3 did--le--deals with complexity.

4 Q Is it your testimony that sweepers are a definite hazard
5 to an experienced boat person in a maneuverable craft
6 on the Nation and the Kandik?

7 A It certainly is. And much more so there than a lot of
8 other rivers, because of the small size.

9 Q When the water's--

10 A A sweeper--

11 Q --low.

12 A --a sweeper on the Yukon River is no problem. And you've
13 got sweepers there.

14 Q Do you distinguish between low and high water level
15 in answering that question?

16 A Yes, because, agin, the current picks up in velocity
17 and tends to move you towards those areas of obstructions,
18 many of which you can avoid. But, again, the general
19 flow of the current is through those areas. And you
20 pick up different sweepers. You pick up the ones, which
21 on low water, are stranded on the bars. You've got
22 to start watching out for those. So, yes, they are
23 a problem.

24 Q Have you had occasion to discuss use of these rivers
25 with people who live in the area?

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1 A No. Other than Fred. One.

2 Q Fred, your friend who--

3 A I wouldn't say he's my friend, I--because, I'm neither way--

4 Q Fred is a person that lives on the Kandik?

5 A Yes, a Fremont (ph). And I did chat with him when we
6 was moose hunting. Took care of his--he asked me to
7 feed his dogs, when he was--when I came back down.
8 This sort of thing. It was just a casual conversation.

9 Q Did Fred ever indicate to you that--that he considers
10 sweepers to be a hazard to him in navigating the Kandik?

11 A If you want to go me--go into hearsay, I'll be glad to.
12 Fred--we were commenting, cause I was coming up in
13 high water, how did he get there. And he said he
14 had a bitch of a time, he had to line it. And he showed
15 me where he had cut trees off, sweepers, that kept him
16 from lining his canoe, up on--three miles from the
17 mouth. He said he had no trouble when he got out
18 to the Yukon. Again, he was talking about that area.
19 But in terms of getting from the Yukon proper to
20 three mile, where his cabin was located, and this is
21 in September, it was on high water, he said he'd had
22 a bitch of a time, cause he had to cut the dam trees
23 down, cause they were in his way.

24 Q So he's--he's cut off a few sweepers that stick out
25 and--and--

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- 1 A Right.
- 2 Q --perhaps at corners, or--
- 3 A Um-hm.
- 4 Q --or significantly obstruct--
- 5 A Sure.
- 6 Q --the river?
- 7 A So they were an obstruction.
- 8 Q They were no longer an obstruction after they were cut,
- 9 right?
- 10 A Those--those trees weren't obstructions, but you've
- 11 got a new crop this year.
- 12 Q Okay.
- 13 A And it is a standing crop.
- 14 Q (Pause) You've testified to your familiarity with--with
- 15 certain types of boats. I'd like to clarify that a
- 16 little bit for the record. Are you experienced in poling
- 17 boats?
- 18 A No. Do I know what they do, yes, but only from reading.
- 19 Q You've never--
- 20 A I've done some, but I wouldn't call myself experienced
- 21 by any means. I've poled down the Allagash (ph) in May.
- 22 But not experienced.
- 23 Q You've never used a tunnel boat, have you?
- 24 A No. I think I testified to that earlier.
- 25 Q What about a jet or airboat?

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1 A I have been in them. I've been in a jet boat. I--

2 Q Is that the same thing? I--I've heard--

3 A No. No, a jet boat--

4 Q Would you describe the difference?

5 A You've got two kinds. One is the kind with an outboard
6 motor, that hangs on the end, where the propellor has
7 been removed. And you insert a--generally they're red--
8 on the bottom of it, which is nothing more than a--a
9 big hydraulic pump. And the drive shaft, in fact, turns
10 the pump, it shoots out a jet of water. And that provides
11 the propulsion. It reduces the capacity of an outboard
12 motor of approximately fifteen percent. In other words,
13 you take a twenty-five horse motor, put a jet pro--put
14 a jet unit on it and you have absolutely less horse
15 power driving your stream up. You use that, because
16 your prop--it reduces the amount of water you need for
17 your prop. You get a different set of problems, though.
18 Because since that's sucking up water, if you're in an
19 area that has small gravel, you can't run that over small
20 gravel too long, because it'll suck it up and screw up
21 your--your propulsion unit. That's the outboard. The
22 inboard, which I have been in also, in Idaho, is a very
23 large boat. It's very comparable to the thing you see
24 at the Lugadis-bygadis (ph) or down on the lower Kenai,
25 with the use there. And that normally has a Chrysler or

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1 a Ford or a Chevy, or some type of a V-8 engine installed
2 in the center that ru--that runs, again, on another pump.
3 And it's a series of nozzles that squirt water out of the
4 back, which provides the propulsion upstream. An airboat
5 conversely is nothing more than a hunk of metal with
6 two boxes sit on it and a hellaious (ph) big airplane
7 motor sitting on the back of that. And it makes so
8 much noise that if you're trying to hunt moose from it,
9 which is what you try to do with mo--from a boat, you've
10 scared every one out of the country. Because they are
11 completely unmuffled. Yes, they go over very shallow
12 water. They're typically used in the Everglades. In
13 other words, the sawgrass country, the Louisiana--Gulf
14 States area. There are a few of them up here--

15 Q Are the used in the Interior--

16 A --not very many.

17 Q --Alaska?

18 A Certainly.

19 Q Are these--

20 A But not typically. And only recently. Again, you're
21 investing a considerable amount of money in an airplane
22 engine. And most people, if they've got that kind of
23 money, would prefer to have an airplane.

24 Q Regarding your--your testimony on tunnel boats and the
25 amount of water that a tunnel boat would need . . . do

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1 you know that a tunnel boat would perform similarly to
2 any boats that you, in fact, have used yourself?

3 A Are you asking for fact or supposition?

4 Q Well, what makes you think that a tunnel boat performs
5 in the same way as--as boats that you are personally
6 familiar with?

7 A I--I don't think it does. And--and the reason I don't
8 think--

9 Q Well, what statement--

10 A --it does is I believe that particular tunnel boat was
11 described as having a four-cylinder engine. I think it's
12 probably a Model-A engine. It's very heavy. It draws
13 a lot of water. It would be very bulky and very difficult
14 to maneuver.

15 Q Let me--let me take a more specific example. You stated
16 that boats sink somewhat when power's applied to go up-
17 stream.

18 A Yes. With a prop unit.

19 Q With a prop unit.

20 A Yes. You get the same thing with a--

21 Q What makes you think you get the--you get the same
22 affect with a tunnel boat?

23 A Because what you--what you have going--in other words,
24 the prop is going at a standard speed and that--it's
25 less than full, let's just assume it's going less than

1 full. When you apply more power, you increase the
2 revolutions. There is a short period of time when that
3 revolution is coming up where your boat is not up to
4 speed. And there's only one thing that can happen.
5 Your boat is still moving at the same speed it was,
6 you speeded up your prop, as a result you scoot the
7 water away faster, the boat sinks, because you reduced
8 the effective flotation--

9 Q Would that be more--

10 A --of the water. You've actually scooted it out. And
11 it just causes the boat to drop.

12 Q Wouldn't that be more characteristic of a prop on an
13 outboard, as opposed to an inboard motor?

14 A No, no. The only difference between an outboard and
15 an inboard of--of equivalent power and gear ratio is the
16 fact that one sits inside and is air-cooled and the
17 other is water-cooled and hangs over the end. Twenty-
18 five horses is twenty-five horses. Again, that's a
19 simplistic answer. They're not really that much
20 different.

21 Q Do you know where the prop is located on a tunnel boat--

22 A No.

23 Q --(indiscernible--simultaneous conversation)--

24 A No.

25 Q If it were located--

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1 A In the center?

2 Q If it were located towards the center--

3 A Well, let's not put--

4 Q --would that change your calculations--

5 A I would prefer to know precisely where it was. My
6 understanding was--is--Richard, was it located at the
7 end or near the end? You've seen the tunnel boat--

8 MR. LUOMA: Off the record, please.

9 (OFF THE RECORD)

10 (ON THE RECORD)

11 Q (Pause) I think we were discussing your calculations
12 with respect to tunnel boats, before we adjourned.
13 Would it make a difference in your calculation, if the
14 propellor were not located at the--at the stern of the
15 boat?

16 A I don't really think so, unless you put it clear up
17 at the end.

18 Q How many inches did you attribute to the propellor
19 extending beyond the bottom of the boat when you made
20 that calculation?

21 A I think two inches. Was--that was my understanding
22 is it extended down two inches below the bottom.

23 Q (Pause) The eleven inches that you attributed to the
24 draft of the boat in an empty condition was based on
25 the assumption, was it not, that--that the boat would

1 not be used heavily during the summer when that water
2 line formed?

3 A It would--the water line was formed at a time when the
4 boat would of been empty, which would of been most of
5 the time. Rather than when it would be used on the
6 river.

7 Q Yeah, but the assumption is that the--that the water
8 line formed when--when the boat was empty--

9 A Is part--

10 Q --as opposed to being used?

11 A Is part. Yeah--yeah, that's right.

12 Q Okay.

13 A Is part.

14 Q Can you define a braided river for us or a braided
15 channel? When you use the word braided in describing
16 the Kandik and Nation, what do you mean by that?

17 A It's a stream which has broken apart, into many, many
18 channels. It involves, on any given year, in those
19 parts which are braided, the channel is susceptible to
20 moving from one side to another. A classic example
21 would be as where it cuts a new channel. The--it--it--
22 literally, if you can just imagine the fingers of your
23 hand and your arm, your arm is a normal stream. A
24 braided stream would be your fingers. And a braided
25 area of the stream is where you have many threads that

1 spread out. You may have water in all the threads. You
2 may have it in some of them or only in one, at any
3 given time. Where the water is, at any given time, in
4 a braided stream is a function of when the last high
5 water was. How much water is in it at that time.

6 Q And how much of the Nation would you describe as
7 braided, using that--that definition?

8 A In other words, having numerous channels.

9 Q Well, you--

10 A Yeah, that's what I said. In--in other whys, having
11 numerous channels. Most of it. Again, I think that
12 was what I said in--in overall, is that you would
13 describe the general character of the river as being
14 braided or meandered.

15 Q Is there a difference between braided and meandered?

16 A Yes. Meandered is where you have a single channel,
17 very well defined, and it loops back and forth, like a
18 loop of spaghetti that has been pushed together.

19 Q Would you--

20 A And that's a single channel.

21 Q Would you describe the river as braided where there
22 are old dry channels, but most of the water is running--
23 running in--in one or--or perhaps two channels down
24 the middle?

25 A Yes.

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1 Q You would describe that as braided--

2 A Yes, because your old dry channels, unless they're veg-
3 etated, have at some time carried water.

4 Q (Pause) What can be done to get over gravel bars during
5 low water times?

6 A Well, you can unload your boat and stack your gear on
7 top. Depending on how much water you've got and the
8 difference between how much--in other words, you're--
9 how much water your boat is drawing and how much water
10 you've got to go there, you may elect to--to drag it.
11 In other words, if you've only got a half an inch or
12 so difference and you've got a lightly loaded boat,
13 you'll drag it. If you've got a heavier boat, you'll
14 almost have to unload it. On--in other words, you'll
15 pull to the bar, you'll have to stop on the downstream
16 side. Typically you'd try to pull it to the side,
17 you can't do it. So then what you do is you unload
18 the boat to where you can lift it as high as it'll do
19 and then you pull there. The other thing you can do,
20 and I've done this myself--

21 Q By dragging it do you mean lining it?

22 A Pulling, yes. Literally just taking it and becoming
23 a horse yourself. The other thing that you can do,
24 either going upstream or downstream, is if you've got
25 a small pointed shovel, you can sit there and dig your

1 way through the bar.

2 Q In other words, sluice a channel--

3 A Right.

4 Q --through the bar?

5 A Yeah. By using a shovel and letting the current carry
6 it away. And that--that gets into a function of how
7 long, how big, how wide the bar is.

8 Q Have you used these techniques yourself--

9 A Yes, I have.

10 Q --in travelling the Interior Alaska?

11 A Yes, I have. In fact, I've used them on the Kandik.

12 Q Are they--

13 A When I was there last year.

14 Q --common techniques that people use when travelling the
15 Interior Alaska streams?

16 A You use whatever's necessary to get up the stream or
17 down the stream. Is that plain. And you get tired
18 of off-loading your boat after a while.

19 Q (Pause) What--what do you mean by lightly loaded?
20 You've made references--

21 A Two people in backpacking gear.

22 Q A hundred pounds of backpacking gear?

23 A That's not my definition of lightly loaded.

24 Q Well, what is it?

25 A Probably thirty-five pounds of gear. Your tent's ten

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1 to twelve pounds, your sleeping bag's a couple of
2 pounds and the rest of it's food.

3 MR. LUOMA: Is that per person?

4 A No, for two people.

5 MR. LUOMA: Two people.

6 A That's the way I travel.

7 Q You said that if you'd gotten a moose on your August '75
8 trip on the Kandik, was it, that it would have taken you
9 two trips to get that moose out.

10 A Yes.

11 Q How many--how many pounds do you estimate a good size
12 moose would be?

13 A Well, first of all, you'd have to bone it. Cause I
14 was hunting in a seventeen foot canoe. Boned you've
15 probably got maybe four hundred pounds, five hundred
16 pounds at most. And that's assuming that, again light
17 loaded, I'm hunting up twenty-five miles or so. And
18 knowing what I've got to go back down through, I'm
19 not even going to take the head out.

20 Q Okay.

21 A I'll leave it.

22 Q Does--

23 A I'll take the meat.

24 Q Does four or five hundred pounds of moose fall within
25 your definition of lightly loaded?

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1 A It does not. That's why I said two.

2 Q Wouldn't--how much bulk would that constitute, five
3 hundred pounds of moose?

4 A Well, five hundred pounds. You'd probably take and
5 completely fill your canoe to the gunwhale, a seventeen
6 foot. Again, it would depend on how--

7 Q Do you think--

8 A --you cut your meat. You'd have to get your gear in.

9 Q A seventeen foot canoe would have that capacity, though,
10 to carry--or would you--

11 A Just--

12 Q --would two trips be necessitated, just by the bulk,
13 regardless of the weight and the dra--the draft of the
14 canoe, because of that weight?

15 A No. I would of gone down--as an example, I was hunting
16 at Circle. I would of had to go down the Yukon with
17 that canoe, I would not have made two trips down the
18 Yukon. I would of made one trip.

19 Q Can you estimate how many beaver pelts might equal--

20 A Heaven's no.

21 Q --one load of moose?

22 A I won't even attempt to.

23 Q (Pause) Assuming you had to get out of your canoe
24 numerous times, when moving a--a heavily loaded canoe
25 in low water, couldn't you more easily move your gear

1 through the water than--than over muskeg?

2 A Yes. But I don't think I said I would take my load
3 over muskeg. I'm talking about just loading it over
4 the bar.

5 Q (Pause) I have one final question. (Pause) Did you
6 submit an affidavit in connection with this hearing--

7 A Yes, I did.

8 Q --in February 1977?

9 A Yes, I did.

10 Q Okay. Do you happen to have that with you?

11 A Yes, I do.

12 MR. LUOMA: That's two questions.

13 A I think there's some more coming. (Pause)

14 Q Referring you to page six of that affidavit . . . (Pause)
15 Do you stick by the statement you made on page six of
16 your affidavit, "that based upon my familiarity with
17 other Alaskan Rivers where travel, trade, and commerce
18 have been noted in historical documents, especially
19 the Yukon, Porcupine, Kobuk, Middle Fork of the Koyukuk,
20 Fortymile and Lower Seventymile Rivers, there is no
21 evidence to support historical navigation of the Kandik
22 for these purposes".

23 A With the exception of the one noted, I--which I was
24 not aware of at that point. And I would not considered
25 it, personally. One trip, up the river, to be evidence

1 of navigation. But that's my own judgment. I would
2 still say this is factual, in relationship to the size
3 of those rivers.

4 Q You've been present from the start of this hearing,
5 haven't you?

6 A Yes.

7 Q You've heard all the testimony--

8 A Yes, that's why I say there's--

9 Q --I believe, from the historians?

10 A Right.

11 Q And you still think that there's no historical evidence
12 to support navigation?

13 A As defined by travel, trade, and commerce. I did not
14 say upstream or downstream movement. By boat.

15 Q (Pause) At the bottom of that same page you stated
16 in the 1977 affidavit, "in 1910 through '11 the survey
17 crew for the International Boundary Commission constructed
18 a summer trail of the Tatonduk River. This was done
19 at a time when there was a native community located at
20 the mouth of the Kandik. And surely it would have been
21 common knowledge about boat accessibility on the Kandik
22 River. The choice to constru--construct overland summer
23 trail strongly implies the Kandik was not navigable,
24 in fact. And that it was not susceptible to navigation,
25 for moving supplies or people, to support the survey

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1 crew". Have you learned more about the activities of
2 the International Boundary Commission from--

3 A Yes, I have.

4 Q --listening to the evidence in this hearing?

5 A Yes.

6 Q Do you stick by the statement I just read?

7 A (Pause) Generally, yes.

8 MS. HIGGINS: I think that's all.

9 MR. LUOMA: Miss Neville, do you have a final
10 question.

11 MS. NEVILLE: I'm afraid I have a few.

12 BY MS. NEVILLE:

13 Q First of all, would you identify what I have now marked
14 as Exhibit B, Number Thirty-five. Is that the same
15 field report of your trip--1972 trip on the Kandik
16 that you were reading from on cross-examination?

17 A It's a Xerox copy, yes.

18 MS. NEVILLE: Your Honor, I would like to
19 introduce the entire report into evidence.

20 MR. LUOMA: Any objection?

21 MS. TAYLOR: I don't think so, Your Honor.
22 Let me take a look at it. (Pause) I have no objection.

23 MS. HIGGINS: No objection.

24 MR. LUOMA: B-Thirty-five is received in
25 evidence.

1 Q (By Ms. Neville) You stated, I believe, on cross-
2 examination that your trip in August was for the specific
3 purpose of preparing for this hearing. In the--was your
4 trip in June also for the specific purpose of gathering
5 evidence for this hearing?

6 A Yes, it was.

7 Q When you were planning the June trip . . . was--was the
8 date chosen . . . specifically to try and find high
9 or low water?

10 A No, it was not. We chose the date specifically to
11 accommodate the Geological Survey member who had--who
12 has a commerical fishing permit that begins July 1
13 and therefore we had to go prior to that date.

14 Q When you were testifying on cross-examination about what
15 it is you were measuring at each of the rod stations,
16 each of those was on a shallow gravel bar, is that
17 correct?

18 A Yes.

19 Q Okay. And when the person walked out with the rod and
20 you took the photographs of a specific point, was that
21 the deepest point along the gravel bar or the most
22 shallow point along the gravel bar?

23 A That was the deepest point on the gravel bar that we
24 could find, by walking entirely across the gravel bar.

25 Q (Pause) When you were planning the trip to the rivers,

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1 the second trip in August of '78, was the purpose of
2 that trip--or wa--was the date that you picked . . .
3 based on the hope of finding a specific water level?

4 A No. In fact, I'd made arrangements with a gentleman
5 to join us from Washington D.C. two weeks in advance
6 as to a date. So we really didn't know what we would
7 find, precisely. We expected to find lower water in
8 June, but, you know, what water level, I had no idea.
9 Or we had no preconceived idea of what we would find.

10 Q Okay. In--in your cross-examination on the trip, on
11 the Nation in June, coming downstream in a relatively
12 high water stage, would you say that we encountered
13 no hazards, that we had no problems in navigating--

14 A No, I would--

15 Q --down the river?

16 A No, I would not. And I think perhaps I should clarify
17 some of the questions that were asked about a specific
18 set of sweepers. In the upper area, and particularly
19 within the selection area, where the sweepers were
20 quite pronounced in the channel, small, you and Jack,
21 specifically, ran into a sweeper and you lost your
22 glasses. You later ran into one--Joe and I were together,
23 both experienc--we likewise got caught in a small sweeper.
24 And if I recall right, Joe lost his hat. That's in the
25 upper area. When we came into the middle area, I debated

1 very seriously about whether proceeding from our camp
2 too, which was downstream from the selection area,
3 because of the water level and we could see things
4 beginning to roll. And this was in combination of
5 having previously broken very strong aircraft leader,
6 trying to measure the river. In the lower river itself
7 there was one, which really sticks out in my mind, and
8 it's in the same general area that I've defined as the
9 back water. I could point it out, if you want to know
10 precisely. Where you are coming down the river near
11 the right bank, the main channel is moving that direction.
12 There's a very large log jam, which we missed. The only
13 problem is is immediately downstream from that there
14 were three other trees at--out in the center of where
15 the water is. In other words, you had to miss these
16 log jams, which are on the right. And then you had
17 immediately confront--in--in order to miss those, you
18 were in a channel which took you directly into two
19 other sweepers that were hanging there. And we had to
20 paddle very, very hard, in order to get around those
21 two, without getting sucked into them. Now, those are
22 the things that I recall. So, precisely, other than
23 that one place near the back water, and I can point
24 that out, which is downstream from the selection--

25 MS. TAYLOR: For the record, Your Honor, which

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1 river?

2 A This is the Nation, because it was June. And that's--
3 that's the best of my recollection of--of places that
4 in June I had very real concern and even to this point
5 stick in my mind.

6 MS. NEVILLE: I believe that's all I have.

7 Thank you.

8 MR. LUOMA: Miss Taylor, do you have any--

9 MS. TAYLOR: I don't have any questions.

10 MR. LUOMA: Miss Higgins?

11 MS. HIGGINS: I did think of two more questions.

12 MR. LUOMA: Two more, alright.

13 BY MS. HIGGINS:

14 Q Do you have any field notes on that June raft trip
15 on the Nation, June '78?

16 A Yeah.

17 Q Do you have them with you?

18 A Sure.

19 Q (Pause) May I see them?

20 A Certainly. (Pause) You'll notice they're rather ink
21 stained, because they got wet.

22 Q (Pause) Have you ever writ--translated this--this into
23 typewritten form?

24 A I have not.

25 Q This is all you have?

1 A This, in combination with--with others that I have. But
2 these are my actual field notes. The maps themselves
3 are part of the field notes. The photographs, which we
4 had with us in the field, were also part of the field
5 notes, at different times.

6 MS. HIGGINS: Can we go off the record for a
7 second, Your Honor?

8 MR. LUOMA: Off the record.

9 (OFF THE RECORD)

10 (ON THE RECORD)

11 MR. LUOMA: B-Thirty-six consisting of . . .
12 how many pages?

13 MS. HIGGINS: Six pages, written on both
14 sides.

15 MR. LUOMA: Six handwritten pages of field
16 notes, prepared by this witness, is received in evidence.
17 (Pause) Do you have another question, Miss Higgins, or not?

18 Q (By Ms. Higgins) Would you characterize the water level
19 during your September '72 trip down the Kandik, June
20 '78 down the Nation--strike that. How would you char-
21 acterize the water level of your September 1972 trip
22 down the Kandik?

23 A Above normal.

24 Q How would you characterize the water level of your August
25 1975 mosse hunting trip on the Kandik?

1 A Above normal.

2 Q How would you characterize the water level of your June
3 1978 raft trip on the Nation?

4 A Much above normal.

5 Q Have you taken any other boat trips on these rivers?

6 A Not unless I've previously testified. And at this point
7 I don't re--I think I've explained when I've been there.
8 So, I'm going to say, if we've covered them all, we have

9 Q So it's your testimony that in the three trips that
10 you have taken all of those occasions have been above
11 normal water level?

12 A No, that is not my testimony. My testimony is, is that
13 when I observed and measured the river in August that
14 that was normal. Or near normal for summer time flow.

15 Q (Pause) So when--when you say that on the trips that you
16 took the water was high, you're using as your basis of
17 comparison measurements you took in--in August 1978?

18 A No. I'm looking at the bank characteristics. I'm looking
19 for vegetation. And these sort of things that tell me
20 whether it's high or not.

21 Q In your opinion the water was high the only three times
22 that you've gone down either of these two rivers?

23 A No. I said I was there also on the river. I wasn't in
24 a boat, but I was on the river--

25 Q You--I'm talking about your river trips.

1 A --in August. And that was normal. Or what I would
2 consider to be near normal.

3 Q Okay. And we're talking about four different times
4 over--over the years, three times you took trips on
5 the river, one time you flew in and took measurements.
6 The one time you flew in and took measurements is normal
7 and the others you--you consider to be high water levels
8 is that right?

9 A Yes. And that, again, is in combination with--

10 Q Okay. You've--

11 A --other trips.

12 Q --answered my question. Thank you.

13 MS. HIGGINS: That's all.

14 MR. LUOMA: I have just a couple of questions.

15 A Oh.

16 BY MR. LUOMA:

17 Q I'm going to show you a--a document that I've taken out
18 of my pleading file. Is that the document that you
19 have mentioned as the DIC, December 5, 1975?

20 A I believe it is. However, counsel showed me a--

21 MR. LUOMA: Off the record a second.

22 (OFF THE RECORD)

23 (ON THE RECORD)

24 Q (By Mr. Luoma) I believe it's been established now that
25 that is the document that's been discussed as the DIC

1 document--

2 A That is correct.

3 Q --that you have in front of you. Would you look at the--
4 I believe it's the last paragraph on page one--page one
5 and it talks about navigability or non-navigability.

6 A Yes.

7 Q Now, is that the decision of the Bureau of Land Management
8 as to the non-navigability of these streams?

9 A Yes.

10 Q And who has signed that decision?

11 A Robert E. Sorensen.

12 Q Now, is he the State Director?

13 A No.

14 Q Didn't you say that the State Director must make that
15 decision?

16 A I did. And I would want to double check the records to
17 make sure whether he has in turn delegated that specific
18 authority here.

19 Q Alright. Look at--

20 A I would presume that he has, since it is signed.

21 Q Alright. Look at page two, item 3(e).

22 A Yes, sir. (Pause) It refers to an easement along the
23 bed of the Kandik River, the river ce--receives he--heavy
24 recreational use by boat, access by the river is by lining
25 or pulling the boat--

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1 Q Please, don't--don't read the--

2 A Oh, I'm sorry.

3 Q What does the reference about the recreational use on
4 these rivers--

5 A It is in reference to a particular type of easement
6 category covered by the secretarial order, which was
7 in affect at this point, governing how easements were
8 to be determined.

9 Q Is there not a statement there in 3(e) that's--in affect
10 says that--that these rivers have heavy recreational
11 use, or what--what is the language that used in that--

12 A It--it does, in fact, say--

13 Q What does it say?

14 A It says heavy recreational use.

15 Q Just read that sentence, please.

16 A It says, "the easement along the bed of the river, the
17 ac--the river receives heavy recreational use by boat".

18 Q Now, do you agree with that statement--

19 A Pers--

20 Q --as a BLM position?

21 A No. I would not. I think it's not heavy.

22 Q Now, I want you to answer this next question I'm going
23 to ask you and it perhaps will be more than one question.
24 On each river--(laughter). Now, you have described these
25 rivers in great detail, as we've gone along. But I would

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1 like to have one very brief concise description, placed--
2 so that it'd be placed in one place in this record,
3 describing the physical characteristics of these rivers,
4 one at a time. Now, what I have in mind is such things
5 as dimension, the braiding, the . . . the delta affect,
6 the--whatever you can think of which would--which would
7 give me a very brief general description of these rivers
8 in one place in the record.

9 A Alright. May I move to the map? Or--or the--the picture,
10 just to refresh my memory?

11 Q No, I think you shouldn't, because--

12 A Okay.

13 Q --I don't want a detailed description.

14 A Okay.

15 Q If you can't do it--if you can't answer what I'm asking
16 you to do, you can say so. But if you can give me a very
17 broad general description of the rivers, as--as you
18 can picture them, the country they run through, I would
19 appreciate it.

20 A Okay. The--starting first with the Nation River, is
21 as small stream, flowing out of the Ogilvie Mountains.
22 It is a tributary to the Yukon River on the north side
23 The mountains in that place are gently rolling. The
24 rugged part of the Ogilvies are in Cananda and are not
25 in the Kandik--or in the Nation basin. The river itself

1 trends to the southwest. It is located against the
2 west side of the basin. As I recall, the basin is
3 generally no wider than fifteen to twenty miles at its
4 widest point. Maybe slightly more, but generally--it's
5 a small basin, very narrow, linear in shape. It does
6 not have the typical pear shape. There are only a few
7 major tributaries, Ettrain, Hard Luck in particular, that
8 contribute to those. Both of those are less than twenty
9 some miles or thirty miles, in general. It is characterized
10 by many, many shallow areas, many, many log jams which
11 pile up, a fluctuating water level, in terms of--it comes
12 up and down very quickly. And that, again, is a function
13 of the small watershed. It's in perma-frost country.
14 As a result, when it rains the water can only percolate
15 down. Many obstructions, very small. You can make a
16 nice canoeing stream out of it, if you're careful. The
17 Kandik--

18 Q Now, just a minute. Let's--

19 A Okay.

20 Q --I'm going to prod you with some--

21 A Alright.

22 Q --some suggestions as we go along, to finish this
23 description of the Nation. Now, what about the meandering
24 or the braiding?

25 A It is pretty well meandered or braided in its entirety.

1 Q Well, what--what do you mean by both meandered and
2 braided? Is it one or the other, or both?

3 A It is one or the other. There are very few places where
4 there is a precise rock or steep bankly--steeply entrenched-

5 Q Okay. Then you would describe, generally, as a sometimes
6 braided, sometimes meandering stream, is that correct?

7 A In its entirety.

8 Q Alright. Now, what about the elevation drop?

9 A I could not give you a precise figure at this point.

10 Q Alright. It's just a general--if--if you can give me
11 a general idea.

12 A I'm going from memory and I think it drops around
13 between fifteen and twenty feet a mile, on the average,
14 if you take the--the headlands, or near the headlands,
15 into the mouth. But that's pure conjecture. I--I just
16 don't recall.

17 Q Alright. Now, you haven't given me a general dimension
18 yet. I'd like to have a general dimension, if you can
19 place figures on length, width, and depth.

20 A Alright. In the lower stream area, and the mouth of the
21 Nation itself is braided into many mou--or in--into many
22 channels, the--at this point the main channel's on the
23 right--or left bank. Coming upstream to Hard Luck your
24 stream thread, where there's water, probably averages
25 a hundred to a hundred and fifty feet. And you'll have

1 some places that are narrow, some places that are--but
2 let's just say a hundred and fifty feet, in width. If
3 you went along and systematically measured depth, you
4 would find against the cutbanks waters to four to five,
5 perhaps six feet. Rather characteristically against
6 one bank or the other, but those are almost always
7 separated in a very short distance by a bar running
8 completely across the river.

9 Q Can you categorize depth with some general term?

10 A I don't think you can, in this case, because it--there's
11 too much variability.

12 Q Let's compare it to--to other rivers that you know of.
13 Or rivers that I might know. The Columbia River. Is
14 this a shallow stream, a deep stream, a medium shallow,
15 or what?

16 A Well, using the Columbia it's an extremely shallow . . .
17 Washington. The Middle Fork of the Sand, at its head-
18 waters?

19 Q Well . . .

20 A Again, I'm trying to think of a river which--which would--

21 Q Well, okay, there's enough testimony, I can gather--I
22 can pick this up.

23 A It's a--it's a--it is--you can't say the average depth
24 is, in a meaningful way, because the average is composed
25 of both the deep water against the bank and the shallow

1 water over the bar. And in either the upstream or--or
2 downstream movement it's not how deep the water is, but
3 how often you have shallow water.

4 Q Alright. Did you--did you say whether it's deltaed or
5 not?

6 A It is. The mouth is braided out into about six or seven
7 different channels. During low flow, normal summer, you
8 normally have only one channel carrying water.

9 Q And is it classed as a glacial stream or a non-glacial?

10 A Non-glacial.

11 Q And does that mean it's a clear stream?

12 A Yes.

13 Q And when is it frozen, as a--as a rule?

14 A We've heard previous testimony. I can say for a fact
15 that on May 5 in '75 it was frozen solid at that point--

16 Q Can you just tell me generally what is the season or the
17 time in which it is useable for--as a running stream,
18 as opposed to being frozen?

19 A Probably starting someplace in mid-June through freeze-up,
20 depending on whether you've had rain or not. And the
21 reason I say mid-June is you'd have to wait until you've--

22 Q What's the approximate time of freeze-up?

23 A Probably within the next thirty days. Early to mid-October.

24 Q Early to mid-October. Now, what is the--ca--can you char-
25 acterize the rate of the flow with some word, such as rapid.

1 or slow or whatever?

2 A Could I say the freeze-up probably is in November, not
3 October.

4 Q Alright.

5 A Is that--

6 Q We'll change that to November. Alright.

7 A L The flow is very swift and I'd say overall average is
8 five to six miles an hour.

9 Q You'd consider that as a swift flowing stream?

10 A ✓ Moderately swift.

11 Q Moderately swift.

12 A And what about the character of the--the bed, that is,
13 rapids, riffles, so forth?

14 Q It's an interspersed area of rapids and riffles. Pool,
15 riffle, pool, riffle. The general bed character of the
16 river is gravel. It--the size of it varies a little
17 bit, but generally it's gravel.

18 Q Now, I know there's been a lot of testimony on this,
19 but I'm going to ask you this, can you anticipate, in
20 your mind, as to--as to what type of craft will be
21 using this river and for what purposes?

22 A I can not invision the river being used, as an example,
23 for commercial--now, again, we're talking--

24 Q No, just tell me what you think it can be used for, what
25 type of craft?

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1 A As an example, sight-seeing, taking a hunting upstream,
2 if you're doing it, you could do that.

3 Q Well, what--what type of craft is this?

4 A You'd probably use a jet boat. And that is a--a flat
5 bottomed, anyplace to twenty feet long, five to six
6 feet wide, and it has anyplace between twenty-five and
7 fifty horse power with a small jet unit on the back.
8 That's--that's the typical standard today.

9 Q You're not ignoring further canoe travel, are you?

10 A No. I was just--

11 Q Well, tell me--

12 A --only starting with the motorized, because your problem
13 is--

14 Q Okay.

15 A --is you've got to go upstream, so I was starting with
16 the things you get upstream, with the least--

17 Q Alright.

18 A --degree of difficulty.

19 Q What else?

20 A If you were going to float downstream, you've got to
21 get upstream, and that means you'd have to walk your
22 canoe or line it upstream to get there. You could not
23 paddle it. The current is too swift to paddle. So
24 you'd have to walk it. You're going to go upstream,
25 come down, or airlift it in to come back down.

1 Q Is canoe one of the crafts, then, that would be using it?

2 A Yes. And I've seen--

3 Q But you're saying it would be used only for going down-
4 stream.

5 A I'm saying that to go upstream, you'd have to walk.
6 To get it upstream to come back down, you'd have to walk.
7 The only way we got craft into the area ourselves was
8 airlift it in. We've heard testimony from other people
9 about how they have to walk, they could not paddle,
10 on a canoe.

11 Q Alright. What about the general area? What is the--the
12 remoteness of the area?

13 A I would call it very remote. You're, by river, sixty
14 miles downstream from--or fifty miles downstream from
15 Eagle, a relatively small population. And you've got
16 to drive two hundred and some miles by road to even
17 get to that point, off of the main highway.

18 Q Alright. Is there habitation within the Nation basin?

19 A The only one that I'm aware of, on a--I'm aware of none
20 on a permanent basis. I'm aware of some seasonal
21 occupancy by trappers.

22 Q Alright.

23 A I'm aware of no one living there year round.

24 Q Alright. Let's go through the Kandik River now, please.

25 A The Kandik has a single mouth entering the Yukon River.

1 That mouth lasts for--in a defined channel for probably
2 a quarter of a mile to a half a mile. And it immediately
3 turns into a very shallow stream. From there upstream
4 to the vicinity of Judge Creek, which is about twenty-
5 four river miles, the stream is extremely meandering and
6 braided. And it's--inter-spokes. The river runs out
7 through the trees in many, many different channels,
8 when the water's high. When the water's low, it would
9 depend on where the be--bed had been scoured the--the
10 deepest at--on any given year.

11 Q That's alternately meandering and braiding?

12 A Yes. But in--in this area it is more braided than
13 meandered. At moving above Easy Moose--or Judge Creek
14 the river is meandered through, again, a short area
15 of open tundra. And then at mile thirty-five, approx-
16 imately, you enter Johnson Gorge. At Johnson Gorge
17 you're back into a confined--the river's confined on
18 one side or the other and very short topographically.
19 It's a very defined channel. You have deep water.
20 From that point upstream, through the selection area,
21 which is another twenty miles, again--

22 Q So you have about twenty miles of--of deep channel
23 water?

24 A Which are interspersed, again, at regular intervals,
25 but further apart. And then down below you've probably

1 got--if I remember right I think there were fifteen
2 major areas in--in that area.

3 Q Okay. Proceed with just a general description.

4 A Okay. Above the selection area you move into a meander.

5 You begin to lose your conciseness, the river, again,
6 begins to spread out a little bit. And as you've moved
7 upstream, you've lost the few tributaries coming in.

8 Now, the Kandik is not only a bigger stream, but it's
9 centrally located in its basin. Again, I think the
10 maximum width's about twenty feet across--or twenty
11 miles across, ridgetop to ridgetop. It's long, it's
12 linear, has the same rolling moutain character as does
13 the adjacent Nation. Above Big Sitdown Creek the river
14 just continually gets smaller and shallower. As you
15 go upstream. And where we put in in Canada the--there
16 were just three small things--three small, literally,
17 streamlets coming together and the stream channel,
18 in September of '72 when we put in, was--if you'd turned
19 the canoe sideways, you'd have been in trouble on some--
20 Q Okay. Can you generalize some type of dimension to this
21 river?

22 A Starting at the mouth you have--through that first twenty
23 some miles, the general thread of the stream would be
24 a hundred to a hundred and fifty feet wide. An average,
25 probably, of--I think a hundred to a hundred and fifty

1 is close to being accurate. Water is generally shallow.
2 When you move up above that into the above Judge Creek
3 and through the canyon, the river begins to become more
4 confined, you get a little bit deeper water. You have
5 fewer shallow places interspersed with those, until you
6 get back up above Ettrain Creek and above the selection
7 ar--or, excuse me, above Big Sitdown Creek. And it's
8 just--you know, as you're passing Indian Grave, which is
9 downstream from that, it gets a little bit smaller and
10 a little bit shallower. It--it just progressively dis-
11 appears as you go upstream.

12 Q Okay. What's--has the width changed now?

13 A You've gone from a hundred--no more than a hundred and
14 fifty feet, in the lower area, to--you're probably
15 still pulling--pulling close to your hundred to a
16 hundred and fifty feet in the upper area. The difference
17 is it's a little bit deeper.

18 Q Alright.

19 A And a more uniform bed in shape. And then above that
20 it probably cuts to not more than seventy-five feet.
21 And in Canada it was sixteen to thirty feet. And again,
22 I'm talking about the thread of the water itself, not
23 the area between vegetation lines.

24 Q Alright. Now, would you describe it in the same manner
25 as you've described, previously, the Nation River as far

1 as some of these elements are concerned, such as the
2 rate of flow, the rapids, and so forth? Or if it's
3 different from the Nation, tell me how it differs?

4 A I would say it's a little bit more stable than the
5 Nation in it's flow characteristics, because it has a
6 slightly--slightly larger basin. But it would react
7 in the same fashion. And I think to the same degree
8 that--in other words, both of them--if you drop two
9 inches of rain in the Nation, I would expect it to
10 react exactly the same way if you dropped in the same
11 general vicinity of--of this drainage two inches of
12 rain. The only difference is is you're dropping it
13 over a bigger area, which means it may last just a little
14 bit longer. Your--your peak may last slightly longer,
15 but it--it would be very, very slightly longer.

16 Q Would the--would--would the non-frozen period be about
17 the same?

18 A Yes.

19 Q Would the--is the glacial the same or--or the clearness
20 the same?

21 A They're--they're both clear.

22 Q The--the elevation loss?

23 A Approximately the same. You might have slightly more,
24 since it's longer.

25 Q And the habitation?

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1 A I'm aware of one person who's living there year round--

2 Q It's about the same as the other one?

3 A No, there's one person that does apparently live year
4 round--

5 Q Okay.

6 A --at the mouth.

7 Q The river--

8 A On the Kandik, at three mile.

9 Q --remoteness?

10 A The same.

11 Q And would your testimony as to the use by types of
12 craft be different here as what you said would be the
13 case on the Nation?

14 A I think overall it'd be the same.

15 Q About the same?

16 A Yes.

17 Q Alright.

18 MR. LUOMA: Does this cause you to want to
19 ask any further questions on cross-examination?

20 MS. TAYLOR: No, Your Honor.

21 MR. LUOMA: Alright. Thank you very much. (Pause)
22 Call your next witness.

23 MS. NEVILLE: Yes, I'd like to call Phil Bailey.

24 PHILLIP BAILEY

25 Being first duly sworn under Oath, testified as follows:

1 BY MS. NEVILLE:

2 Q Could you state your name for the record, please?

3 A My name is Phil Darrell Bailey (ph).

4 Q And what is your occupation, Mr. Bailey?

5 A I'm lead realty specialist, Fortymile Resource Area
6 down in Tok, work for Bureau of Land Management.

7 Q How long have you held that position?

8 A Two years.

9 Q Okay. Could you give us a brief description of your
10 educational and professional background?

11 A I received a Bachelors of Science from Oklahoma State
12 in forestry, in 1966. I worked for private industry
13 in the south for two years. Worked for Bureau of
14 Indian Affairs and Forestry for seven. I worked in
15 several different states in the Lower Forty-eight. I
16 worked in Southeastern Alaska, off Ketchikan. Tranferred
17 to the Interior. I have a realty background in forestry,
18 due to most of the access problems, road construction
19 and whatnot. It's a lot easier for the Forestry to get
20 the access than realty, cause we were in the field doing
21 it. I've worked in Alaska for four years. I've worked
22 both in BAI realty and BLM.

23 Q Okay. Could you tell us exactly what your duties and
24 responsibilities are as lead realty specialist for the
25 Fortymile Resource Area?

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1 A Okay. As lead realty I'm in charge of the lands and
2 minerals program of the Fortymile Resource Area. Any
3 lands transactions, whether it's easements, withdrawals,
4 right of ways, temporary use permits, any insular related
5 problems or--not necessarily problems, but Native allot-
6 ments, easements, this type of work. Homesteads. Any
7 of your occupancy.

8 Q Do you supervise other people?

9 A Yes. I supervise five at the present time. Five
10 permanents.

11 Q And are these people also realty specialist?

12 A No, not all of them. I have one geologist, two NRS's--
13 or--

14 Q What are NRS's?

15 A I'm sorry. Natural Resource specialists. Actually
16 there's three. One of them deals with the pipeline.
17 And I have one realty specialist.

18 Q Okay. Now, could you explain, using the map if it
19 would be helpful, what the Fortymile Resource Area
20 encompasses?

21 A The map here is not quite large enough. Our boundary
22 starts--the easiest way would be to give you a verbal
23 description. Leaving Fairbanks, going towards Delta,
24 when you hit the Salcha River that's our north boundary.
25 It follow the Salcha River up to about Woodchopper. And

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1 I can show you that up here. It follows the Salcha
2 River up to the headwaters and along--it's stairstep
3 by township, to about here.

4 Q Could you identify here by a place name?

5 A Oh, okay. Yes.

6 MR. LUOMA: I know where it is on the map.

7 A Okay.

8 MR. LUOMA: You're looking at B-Three.

9 A Right--

10 MR. LUOMA: You said Woodchopper, didn't you?

11 A Yes.

12 MR. LUOMA: Um-hm.

13 A And it is stairstepped at about the forty-five degree
14 angle, northeast through the Kandik area. It goes to
15 the Canadian border from there, and as far south as
16 the Alaska Range. The area encompassed without our
17 boundary is roughly nineteen million acres. Of that
18 approximately six million we have transferred to other
19 ownership. We expect to have roughly eight million acres,
20 if the D-2, the Native selections, and State selections,
21 as they're now shown--if we transfer that to them.

22 Q Okay. Then this Fortymile Resource Area includes--does
23 it include all or a portion of the Nation and the Kandik
24 Rivers?

25 A It includes all of both the Nations and the Kandik that

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1 is in Alaska.

2 Q Okay. Thank you. In your position, as lead realty
3 specialist, do you often use boats in doing field work?

4 A Yes, we do.

5 Q Had you had any prior boating experience before you
6 became employed in Tok?

7 A Yes.

8 Q Could you tell us what types of boats you've used?

9 A Okay. Just in Alaska alone, when I was working at
10 Ketchikan I had a twenty-eight foot cabin cruiser. I
11 had a twenty Merc 165, it was an inboard. And since
12 I come to the Interior standard equipment are canoes,
13 river boats, kayaks, and rubber rafts.

14 Q Do you own a boat?

15 A Yes, I do.

16 Q Would you tell us what kind?

17 A I own a nineteen foot Gremlin, with a lift and a fifteen
18 horse motor.

19 Q Have you used boats on many Alaska rivers?

20 A Yes, I have. Probably ten or twelve rivers, both
21 professionally and as a hobby.

22 Q Are you personally familiar with the Nation and the
23 Kandik Rivers?

24 A I'm familiar with both of them, primarily with overflights.
25 And I have been on both of them to a limited extent by

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1 boat and on foot.

2 Q Okay. If you could--let's concentrate on the Nation
3 River first. Could you tell us when you have been
4 on the Nation River or to the Nation River and what
5 portions of the river--I--I think the best way to
6 approach this might be a chronological list of the
7 trips you've taken to the river area.

8 A Okay. Physically or in the air?

9 Q Why don't you go ahead and give us both.

10 A Okay. I have overflown both rivers several times
11 each year.

12 Q Excuse me, let's just talk about the Nation first, okay?

13 A Okay. Sorry. The first part of June, I don't remember
14 the exact day, but I believe it was the fourteenth,
15 I flew the Nation River. We had a report of an unauthorize
16 to use. Report of cabin. On the fifteenth we hired a
17 gentleman out of Eagle with a twenty foot jet boat.
18 And we tried going up the Nation River. We got approx-
19 imately a half mile till we hit the first major sand-
20 bar. The gentleman that owned the boat declined to
21 go any further, until we walked a ways and le--see
22 what the rest of the river looked like.

23 Q What year was this?

24 A This was '77.

25 Q Okay.

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1 A June 15th.

2 Q Okay. Was that your first experience on the ground on
3 the Nation River?

4 A Yes, it was.

5 Q Okay. And what was the purpose of that trip?

6 A We were looking for new cabin construction.

7 Q Now, when you--I believe you stated you hired a gentleman
8 in Eagle--

9 A Yes, I did.

10 Q --to bring you to the Nation River. Did you--what did
11 you hire him to do, to take you to the Nation River
12 or to take you up the Nation River?

13 A He was hired to transport us up the Nation River, if he
14 could. He told us in Eagle that if the spring run-off
15 was still in proc--progress, he could take us up part
16 way. But if--and he felt we were about a week late.
17 We would not be able to go up the river.

18 Q Now, how far up the river was the place you wanted to
19 investigate?

20 A Twelve miles. Twelve to thirteen.

21 Q Is that in the vicinity of Hard Luck Creek?

22 A Yes, it is. You've seen pictures of the cabin in
23 previous testimony. It's about three-quarters--

24 Q It was that cabin.

25 A --of a mile above Hard Luck.

1 Q Who--who was this person in Eagle?

2 A The gentleman that we hired the boat from was Dave Roy.

3 Q And could you describe what type of a boat he had?

4 You said it was a jet boat.

5 A Right. It's a--a twenty foot length. It's approximately
6 six feet wide, he has a--I believe it's a three sixty-
7 five horse inboard, its a jet engine.

8 Q Um-hm. Do you know what the draft for that type of
9 boat it?

10 A I have ask him. And if I remember correctly, he said
11 he would usually go in about six, eight inches of water.

12 Q Okay. When you--you came in this boat from Eagle up
13 to the mouth of the Nation?

14 A Yes.

15 Q Would you describe for us what you saw and what you did
16 after you reached the mouth of the Nation?

17 A Okay. The mouth of the Nation--it's a braided river,
18 as previously testified. We looked for the best
19 channel in which to go up. And it--we ended up going
20 up from the left hand side. We ran into approximately
21 three log jams. One of them we had to back off from
22 once. And had to get up enough speed to manuever around
23 when we made it through there. The other two were a
24 should we say a nuiance. No great difficultly, cause
25 of the horse power we had. And just above the third

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1 one we ran into a gravel bar. We had to hang, I guess
2 to the left bank of the river, cause it was the only
3 place that was deep enough. We eventually beached the
4 boat. We walked approximately a quarter to a half
5 mile upstream, because Dave Roy that said if it was
6 enough on above, he would try this one shallow stretch.
7 We walked up three, four hundred yards, there was another
8 gravel bar. It had exposed rock. And at that time
9 Dave said he would not try it.

10 Q When you say exposed rock what do you mean?

11 A Okay. With a gravel bar all the way across the river
12 and the rocks were sticking out. The water wasn't even
13 covering the tops of them. There was--in the main
14 channel there was probably less than a foot of water.
15 And I would guess, I'm going from memory, it was probably
16 six to eight feet wide.

17 Q Okay. Have you been present for Mr. Tileston's slide
18 presentation?

19 A Most of it, yes.

20 Q Did you see the . . . I believe it would be the first
21 series of pictures that he showed on the Nation, because
22 his presentation went from the mouth upstream. Did you
23 see the first part of that presentation?

24 A Yes, I did.

25 Q Do you remember the pictures of the August water level?

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1 I believe all his slides of that portion of the river
2 were in August, because--

3 A Yes.

4 Q --he didn't go there in--

5 A Yes, I do.

6 Q Was the water level on June 15th of 1977 which you
7 observed, would you say it was comparable to that or
8 higher or lower to the conditions which he showed in
9 those slides?

10 A I'd say it was comparable.

11 Q Okay. Could you describe, you--you walked--while you
12 were walking up this quarter of a mile, your observations
13 of the river and the conditions?

14 A The river is--is very braided. There's many channels
15 of waters defused over quite a wide area. The one main
16 channel was probably thirty feet in width, that actually
17 had water in it. Usable water. Like I said earlier,
18 I think it was six to eight feet wide, that you possibly
19 float a boat in.

20 Q Did you attempt to walk across any of these gravel bars?

21 A Not at that time, we did not.

22 Q Did you walk along the bank or did you ever walk in the
23 water, wade in the water?

24 A We were--actually we were in the middle of the river, to
25 a certain extent, on gravel bars. And most of the time

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1 we were on one large gravel bar. Like I said, it was
2 braided and there were small amounts of water crossing
3 it. Like small creeks, which we waded across.

4 Q Would you be able, on the basis of--of that trip, where
5 you were walking up, to make any estimate as to whether
6 the flow of the water was swift or slow?

7 A In the main channel it was swift. The rest of it was
8 so defused that it was running water, that's about all
9 I can say.

10 Q Okay. After you reached this point, a quarter of a mile
11 from where you started walking, what happened?

12 A We decided that we had best go on down to the Kandik.
13 There was a report of another cabin. So we returned to
14 the boat, went down to the--returned back to the Yukon
15 River and went down to the mouth--

16 Q How far--

17 A --of the Nation.

18 Q Do you know how far upstream you were when you--you
19 stopped the boat?

20 A Approximately a quarter to a half mile.

21 Q Did you encounter any difficulties going back downstream
22 with the jet boat?

23 A Not that I recall.

24 Q Okay. Have you made other trips to the Nation River?

25 A I have since then, yes.

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1 Q And when was the next trip?

2 A July 18th of this year.

3 Q And how did you reach the Nation river on that trip?

4 A Again, we hired Dave Roy and his jet boat to carry us
5 up there. The only difference was this time we carried
6 our nineteen foot Gremlin and nine and a half horse
7 power motor with us.

8 Q (Pause) And so you anticipated that you wouldn't
9 be taking the jet boat upstream?

10 A Yes.

11 Q Did Mr. Roy let you off at the mouth or did he make
12 any attempt to get into--up the Nation River?

13 A He made no attempt. We went approximately a quarter of
14 a mile down the Yukon, below the mouth. He pulled into
15 the bank, we off-loaded the nineteen foot Gremlin, which
16 we had actually loaded in his boat to carry it, in lieu
17 of trailing it behind. We put our motor, gas can, and
18 the material we were carrying with us, which was primarily
19 a camera for taking photographs, and a briefcase. And at
20 that time Dave Roy went across the Yukon River, in the
21 vicinity of Nations to pitch camp. We attempted to
22 run the Nation River.

23 Q Was your purpose on the July 18th trip to investigate
24 the same cabin?

25 A Yes, it was.

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1 Q Okay. Could you describe your trip upstream on the
2 Nation from the time you were left off on the Yukon?

3 A Okay. Unfortunately I was operating the motor, and
4 having flown the Nations I know that the mouth is
5 braided, I attempted to go up the right hand channel,
6 instead of the left. Because there was quite a bit
7 of water coming out, it was clear. And I got in
8 approximately a quarter of a mile and hit a deadend.
9 And then I had to back off and I hit the Yukon again.

10 Q What do you mean a deadend?

11 A I mean I run out of water, I hit just a gravel bar.

12 Q There was no water or too little water?

13 A There was no water. The depth right in there was
14 roughly two feet, with a blind--and I say a blind
15 canyon, a blind channel.

16 Q Was that similar to the slide that Mr. Tileston showed
17 where you had a completely blocked channel at the mouth,
18 with . . .

19 A It's similar, but it isn't quite exact. Because this
20 one lead in I'd say roughly a quarter of a mile.

21 Q Okay. So you went back.

22 A So I went back. We went up the left hand channel. We
23 got as far as we did, to the first gravel, that we did
24 the previous year with the jet boat, with our nineteen
25 foot Gremlin. I raised the motor and attempted to go

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1 up it, but we ran aground. We got out of the boat, and
2 the boat would raise then, and we just drug it or
3 hand lined it through the shallows until, I'd say
4 probably a hundred feet, the water's deep enough. We
5 got back in and started off again.

6 MR. LUOMA: I'd wish you'd first decribe the
7 Gremlin and what it drafted and everything, so I'll know what-
8 what it is you're talking about now.

9 A Okay.

10 MR. LUOMA: How loaded was it?

11 A The Gremlin we were using was a nineteen foot aluminum
12 boat with a square stern. It's a canoe. We had a
13 lift on the stern for raising the motor. The lift
14 weighs approximately thirty pounds. The nine and a
15 half horse motor weighs approximately seventy, maybe
16 seventy-five. And we had six gallons of gas. There
17 was three of us in the boat. Two of us--well, the three
18 of us would weigh maybe five hundred and fifty pounds.
19 So there was roughly seven hundred pounds or so in the
20 boat.

21 MR. LUOMA: And what do you guess the draft
22 to be?

23 A Roughly four to six inches. Okay. This process of going,
24 I'd estimate three to four hundred yards, hitting another
25 gravel bar, we would get out . . . pull the canoe through

1 the shallows, to where it's deep enough that we could
2 put--get back in and operate the motor. This was
3 repeated I don't know how many times.

4 Q Now, when the three of you got out of the canoe--could
5 you estimate how much--well, first, how much the equip-
6 ment that you had placed in the canoe weighed, how much
7 the weight of the cargo in the canoe was?

8 A The cargo consisted of--other than the motor and the
9 gas, of a briefcase, maybe fifteen pounds, and a camera.
10 And that was basically it.

11 Q Okay. So even with the gas, you probably had less than
12 fifty pounds?

13 A Yes.

14 Q Could you describe for us what is involved in hand lining
15 a canoe that was loaded like that? Did you find that to
16 be a difficult task?

17 A As a rule, no. Normally what one of us would do--we
18 were all wearing hip-waders. One of us would--we
19 alternated, one of us would grab the line on the bow
20 and we would just simply wade upstream through the
21 shallows and tow the canoe, which was generally no
22 problem. In some of the areas we encountered extremely
23 swift water. We had trouble standing. And the drag
24 of the boat--it was a lot easier for one of us to be
25 behind the boat, pushing on the motor. For instance,

1 where the water was deep enough that we could navigate
2 through it, we found that the ten horse motor with three
3 of us in it was all it could do to carry us over the
4 gravel bars. So the water was constricted, be deep
5 enough for us to go through it.

6 Q Did this process of encountering shallows, where you
7 would have to get out of the boat and drag, continue
8 all the way up to Hard Luck Creek, where the cabin is?

9 A We did not go all the way to Hard Luck Creek. There were
10 two other cabins this side of Hard Luck. One of them's
11 at two and a half mile. We stopped at this cabin, there
12 was on one around. It appeared not to have been used
13 since this spring. So we proceeded on up. Once or
14 twice the water was so shallow that we had to literally
15 drag the canoe empty over the rocks. At approximately
16 six miles, where the second cabin's located, we checked
17 on it. It had taken us right at four hours to cover
18 six miles. It was about four-thirty or five in the
19 evening. And I decided that it wasn't likely that the
20 gentleman would be home upstream. If he was there,
21 it would not meet the purpose of going on up. So we
22 turned around and headed downstream.

23 Q Was it easier going back downstream?

24 A Oh, it was much easier. The first thing we did was
25 take the motor off and lay it in the bottom of the

1 canoe. And we floated virtually all the way down.
2 Even across the shallows. And at three different
3 places we had to literally drag the canoe. And we
4 had to get out several times, because with three of
5 us in there it was too shallow. We'd ground out.
6 One or two of us could step out and the canoe would
7 go on through, then we'd step back in. At about two
8 or three locations it was so shallow that we all had
9 to get out and literally drag the canoe across the
10 rocks.

11 Q Would--would you say that the water level on your
12 July 18th, 1978 trip was--how would you compare it
13 to the slides you've seen of the same area that were
14 taken in August of 1978?

15 A Very similar. As a matter of fact, the one slide, I
16 don't remember the number, that shows the log jam in
17 the middle of the stream, where there's a tight deviation,
18 we motored up to is. And we elected to get out and
19 drag the boat over a pile of rocks, in lieu of trying
20 to run around it. It was too dangerous, in my opinion,
21 for my ability.

22 Q How would you compare the level of water on the Nation
23 on your July 18th, 1978 trip to that on your June 15th,
24 1977 trip?

25 A They were very similar. If anything, there may have

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1 been a little more water in '77.

2 Q Thank you. Okay. Did you--do--did you go to the Nation
3 River again, after your July 18th trip of this year?

4 A Yes, we did. We went in August 25th by helicopter.

5 Q By helicopter. Were you again trying to get to the
6 same area?

7 A Yes, we were.

8 Q Did you land the helicopter?

9 A Yes.

10 Q Where did you land the heli--helicopter, approximately?

11 A Approximately twelve, thirteen miles upriver, about
12 three-quarters of a mile above Hard Luck, right by the
13 cabin. We landed on a gravel bar.

14 Q Okay. From your observations on that visit did you
15 find a similar water level on August 25th?

16 A No, I did not.

17 Q Could you describe what you observed of the river on
18 your August 25th trip?

19 A There was quite a bit more water in August than there
20 was in July.

21 Q Was there as much water--was it comparable to the slides
22 you saw of the Hard Luck Creek area that were taken
23 in June of 1978, that Mr. Tileston presented?

24 A It looked very similar, yes.

25 Q Okay. Let's switch and go to the Kandik River. Have

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1 you taken trips to the Kandik River?

2 A Yes, I have.

3 Q Okay. When was the first time that you went to the
4 Kandik River?

5 A June 15th of '77.

6 Q Was this the same trip that was when you came up from
7 Eagle by jet boat?

8 A Yes, it was. We just--when we couldn't go up the
9 Nations, we went on down to the Kandik.

10 Q Okay. Did--is is Dave Roy, attempt to ascend the Kandik
11 River on that day in his jet boat?

12 A Yes, he did.

13 Q Were you able to successfully get up the Kandik?

14 A No, we got approximately three-quarters to maybe a mile
15 before we ran into a gravel--

16 Q Okay. First, where were you trying to go on the Kandik?

17 A Okay. Threemile Creek. Previous testimony has shown
18 slides of the cabin. We were trying to reach the cabin
19 to talk with the individual or to see if there's been
20 any activity in that area. We made it roughly three-
21 quarters of a mile before we ran into gravel. We beached
22 the boat, we walked upstream a ways, and we could see
23 that there was more shallows ahead. So at that time we
24 suggested to Dave Roy that he pitch camp right on that
25 gravel bar. And Leroy Cook and I hiked up to the cabin.

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1 Q So you hiked three and a half miles--three miles up
2 the river?

3 A Well, that's what we thought it was going to be.
4 Actually we started hiking--we thought we'd be there
5 in an hour and a half. We tried to ford the river at--
6 on one gravel bar and it wasn't very deep nor very wide,
7 but it was quite swift. And we started across--the
8 current was swift enough that it moved the rocks out
9 from under our feet. Since the cabin was on the same
10 side of the river we were on, we just elected to stay
11 on that side and hike the rest of the distance. Some of
12 the slides from the previous testimony showed full
13 channels. Those are--some of those are, in fact,
14 sloughs, which are quite deep, because we found we could
15 not ford those next to the river. We ended up hiking
16 a quarter to a half mile off the river before we could
17 find a place where we could ford it. It took us
18 approximately three hours to get to the cabin.

19 Q Did you observe any log jams on that portion of the
20 Kandik River?

21 A Log jams were numerous and so were sweepers. We, at
22 times, wading into the river and elected to walk up
23 it, as there were no trails. In some instances the
24 river was too deep and we actually climbed over, next
25 to the bank, log jams.

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1 Q Have you . . . Okay. On this July 15th hike could you--
2 it's not July 15th, that was June 15th, 1977, excuse
3 me. Was the water level and the conditions that you
4 observed on that trip, were they similar to the August
5 3rd and 4th of 1978 slides we showed of the lower
6 portions of the Kandik?

7 A They appeared to be similar, yes.

8 Q In your estimation would--was the water level higher
9 or lower or just about the same?

10 A I would say it was about the same.

11 Q Have you made other trips to the Kandik River?

12 A No, I haven't. We started, but we ran into minor
13 difficulties, engine problems.

14 Q When was that?

15 A That was this year. We had--when we went up the Nations
16 Dave Roy took us up, we took the Gremlin and we dinged
17 up the prop pretty good, on the rocks. We pitched
18 camp that night. One of the gentleman at the fish camp
19 above us let his canoe get loose and it drifted down-
20 river. And we were carrying just enough fuel to go to
21 the Nations and the Kandik, then return back to Eagle.
22 This is for the jet boat.

23 Q Um-hm.

24 A Around eleven o'clock that night the gentleman had
25 borrowed another canoe and was coming downstream looking

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1 for his. His was a motorized, he had a ten horse motor.
2 He was approximately five miles below his camp. So
3 we lent him our boat, the jet boat, to go look for
4 his canoe. And when he returned he had--

5 Q Was that--was that coming down the Yukon?

6 A That was coming down the Yukon.

7 Q Okay.

8 A And when--they found his boat, but when they returned
9 we did not have enough fuel to proceed on down to the
10 Kandik.

11 Q Kandik. So it wasn't a problem with the Kandik so much
12 as a problem with your equipment--

13 A Right.

14 Q --that prevented you . . . You said that you had dinged
15 up a propellor. I'm confused. Was that on the--on your
16 canoe or on the jet boat?

17 A Okay. That was on the canoe. The jet boat does not
18 have a prop.

19 Q Where did you ding up your propellor on the jet--on your
20 canoe, was that as a result of your attempting to get
21 up the Nation River?

22 A Yes, it was. The Nation is quite shallow and we have
23 a lift worked by hand. I don't know whether you're
24 familiar with them. And you'll be going upstream, you'd
25 feel the motor bounce. You were hitting rocks. You

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1 would lift the motor by hand to keep going. And eventually
2 you would lift the motor completely out of the water. Or
3 the prop would be in the rocks. The bottom of the river
4 is not smooth, there are--some rocks are larger than
5 others. And we'd be going along, you'd never even see
6 the rock. And we'd hit it and it'd tilt the motor.

7 Q Are you familiar, as a result of your position as a
8 realty specialist, of the land status in the area of
9 the Nation and Kandik Rivers?

10 A Yes, I am.

11 Q Would you be in a position to know if there are any
12 Native allotments along the Nation or the Kandik River?

13 A Along the Nation or the Kandik there are none. At the
14 mouth of the Kandik there is one.

15 Q How about along that stretch of the Yukon, like from--
16 I'm not sure. I guess you said your boundary was at . . .

17 A By Woodchopper.

18 Q Woodchopper. From Woodchopper to Eagle, is that within
19 your area?

20 A Yes, to the Canadian border.

21 Q Are there any Native allotments along the Yukon in that
22 area?

23 A Yes, there are quite a number. The exact number I
24 could not tell you without a--an actual count. The
25 summer of '77 we did something like thirty parcels on

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1 the Native allotments just on the Yukon River. And they've
2 been working on Native allotments for quite a number of
3 years. Our predecessors had. We just finished it up.

4 Q Is there any land along the Nation or the Kandik River
5 that has been patented to private individuals?

6 A There is one forty acre parcel across the river, on the
7 south side of the Yukon, from Nations that is patented.
8 It's in the general area of where the old community of
9 Nations is located. There's--

10 Q Where--go on, I'm sorry.

11 A There's one other parcel of patented land, but it's
12 down by the Tatonduk River, which is the bottom--the
13 lower right hand of this map, which is out of the--
14 actually it's out of the D-2 area and the Doyon selection.

15 Q We--were you present at this hearing on Tuesday, the
16 first day of the hearing?

17 A No, I was not.

18 Q Okay. There was some testimony regarding cabins in the
19 area. And I believe the testimony was that if you
20 considered a cabin as--as something that had a roof on
21 it there were probably thirty-five to forty in the area
22 between Circle and Eagle on the Yukon River. Would you
23 be in a position to know, I--I'm assuming from your
24 previous testimony that part of what you do is look
25 for cabins, how many there are in that general area?

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1 A Okay. I would not be in a position to know all of that,
2 since our resource area ends just east of Woodchopper.
3 Along the Yukon River to the border there are sixteen
4 that I know of, one or two more that--should I say we
5 haven't located yet.

6 Q Are these along--

7 A That we know that are in the area.

8 Q --the Yukon?

9 A Yes.

10 Q All of them?

11 A Right along the Yukon River.

12 Q Okay. And how many cabins are you aware of along the
13 Nation River?

14 A As you've described them, with a roof, I'm aware of
15 three.

16 Q And--

17 A That are useable.

18 Q And where are they located along the Nation?

19 A Okay. The first one's located approximately, going
20 upstream from the Yukon, two and a half miles. The
21 second cabin is located at approximately six miles.
22 And the third cabin is approximately twelve to thirteen
23 miles, which is in the vicinity of Hard Luck Creek.

24 Q Okay. And how many cabins are you aware of that are
25 along the Kandik River?

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1 A Starting at the mouth, counting the cabin that's on the
2 Native allotment, there are three. One of them is right
3 at the mouth. It's, shall we say, a trespass cabin.
4 Almost directly across from it is the Native allotment.
5 And then up on Threemile Creek there's the third cabin.

6 Q In your work as lead realty specialist for the Fortymile
7 Resource Area do you have any duties that relate to the
8 determination of navigability of streams in the area?

9 A Yes, we do.

10 Q Could you tell us what your part in the process is?

11 A Okay. The--after the selection's made by the Native
12 group, Village Corporation, whatever, we send out
13 letters, and we have a mailing list of approximately
14 a hundred and ten government/state agencies, individuals
15 private groups, and we ask for nominations for easements
16 recommendations, or whatever. This stuff is compiled
17 into a report called the easement report. And this
18 includes the--all of your easements, whether it's trails
19 campsites, navigable streams, navigable lakes, or whate-
20 ever. We end up trying to verify as much of this as
21 possible. A lot of information we have received we
22 have not physically, on the ground, checked. For the
23 simple reason that we don't have the money nor the time
24 to cover all of it. Most of it--it goes to task force.
25 It's up to the nominating agency or individuals to show

1 us sufficient proof that it should remain.

2 Q How about navigability, is--as opposed to easements?
3 I realize that they're treated together, But I want to
4 concentrate on navigability determinations. Is field
5 work generally done by the people in the district, you
6 know, the area offices?

7 A If any field work is done, it is done by the area offices.
8 If you're thinking the Nations and Kandik, I did not do
9 that, that was before my time. But my predecessor did
10 field examining.

11 Q And who was that?

12 A Dave Williams.

13 Q Is he still with BLM?

14 A No, he does not (sic).

15 Q Do you know where he is working now?

16 A Yes. He's working for Doyon. He's the head of their
17 land department.

18 Q Do you--did you review his field report?

19 A I have reviewed it, but it's been approximately two
20 years ago.

21 Q Did you ever talk to Dave Williams about what type of
22 a field investigation he did, specifically on the Nation
23 or the Kandik Rivers?

24 A I have. It's been, like I said, about two years ago,
25 because I replaced him down at the Fortymile. We got

1 a--a map out and we were discussing these, along with
2 the other easements. And he said that he had overflown
3 the Nations, the Kandik, and the Black River with a
4 helicopter. He had landed along the gravel bars and
5 physically inspected the depth of the water, or whatever.
6 Now, whether he took an actual measurement, I don't know.
7 Dave has been in the--in Alaska in the field doing this
8 type of work for a number of years. And I know what
9 I would have done, I would have looked at it and I
10 could fairly well estimate whether or not I could get
11 a--let's say a nineteen foot Gremlin, up it or not.

12 Q Now, you said that he told you he--he landed the
13 helicopter. Did he say that he landed the helicopter
14 on each of these rivers or do you re--do you remember--

15 A I don't remember--

16 Q --do you know?

17 A --that, no.

18 Q When a field investigation like this is done for navi-
19 gability, would he have been investigating only the
20 portions of the river within a given selection?

21 A No, he would investigate--in this instant, from the
22 Yukon River up through that selection. For the simple
23 reason that if we're trying to determine navigability,
24 if for any reason there should be a natural barrier,
25 a waterfalls, or whatever, the navigability of that

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1 river could only be up to the waterfalls, or whatever
2 the barrier was. The portion above would be non-
3 navigable.

4 Q So--so you treat a river a whole, generally, in doing
5 this type of field work?

6 A Yes, we do. We have to.

7 Q Are you aware of how much of the land along these two
8 rivers was selected--had been selected by Doyon at the
9 time that he was doing his field work? Was--were--were
10 these the only areas that Doyon had selected at that
11 time?

12 A No, I don't--I think virtually all of it. The area
13 along the river, where you've got your heavy lines,
14 the Yukon-Charley proposal, I think Doyon had already
15 selected everything north and east of that. What--
16 an area we refer to as the Kandik basin. I think all
17 of that was under Doyon's selection. You would have to
18 go back to the original field reports--

19 Q I realize that I'm asking you to testify from things--
20 that you're trying to remember a conversation. Okay.
21 Have you personally done navigability field investiga-
22 tion?

23 A Yes, I have.

24 Q Okay. (Pause) Do you know when jet boats, like the
25 one you hired in Eagle, do you know when they came into

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1 common use in the Fortymile Resource Area, the middle
2 Yukon area?

3 A No, I do not.

4 MS. NEVILLE: Okay. I have nothing further.

5 MR. LUOMA: Miss Taylor.

6 MS. TAYLOR: Thank you.

7 COURT REPORTER: I'm going to have to change
8 tape.

9 MS. TAYLOR: Okay.

10 (OFF THE RECORD)

11 (CHANGE OF TAPE)

12 (ON THE RECORD)

13 MR. LUOMA: Miss Neville, I understand you
14 have another question, before we turn to Miss Taylor, is
15 that correct?

16 MS. NEVILLE: Yes. Thank you.

17 Q (By Ms. Neville) Can you identify what has been marked
18 as Exhibit B, Number Thirty-seven?

19 A Yes, I can. It's the navigability investigation report
20 for the Kandik and Nation Rivers, effecting Doyon,
21 Limited's selection. It's signed by Dave Williams as
22 acting area manager for Fortymile, signed Thomas Williams.

23 Q Thomas D. Williams and the Dave Williams you were
24 referring to are the same individual?

25 A Yes, they are.

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1 Q Is this the investigation report that you discussed with
2 Mr. Williams?

3 A Yes, it is.

4 Q And is this the official BLM navigability report that
5 was prepared by your area office?

6 A Yes. It was attached to the easement report, part of the
7 case file.

8 MS. NEVILLE: Your Honor, I would like to
9 introduce this into the record.

10 MS. TAYLOR: Your Honor--

11 MR. LUOMA: Any--any objection to B-Thirty-seven?

12 MS. TAYLOR: Your Honor, this is already part
13 of the record. It was entered an attachment to BLM's answer.

14 MR. LUOMA: Alright.

15 MS. TAYLOR: So I obviously have no objection--

16 MS. NEVILLE: I'm not sure--I--I was not sure
17 whether the AMTAB (ph) and your record were the same. And . . .

18 MR. LUOMA: Alright. B-Thirty-seven's received
19 in evidence.

20 MS. NEVILLE: I have no further questions.

21 MR. LUOMA: Miss Taylor?

22 MS. TAYLOR: Thank you.

23 BY MS. TAYLOR:

24 Q Mr. Bailey, are you the only staff member for BLM who
25 does trespass investigations?

1 A No, I'm not.

2 Q Does anyone else from BLM do trespass investigations, say
3 on the Kandik or the Nation Rivers?

4 A Primarily I have assigned that job to Leroy Cook, who
5 is a staff member there at the Fortymile.

6 Q Are--are trespass cabins quite a problem for BLM in this
7 area?

8 A There are quite a number of them. To say they are a
9 problem, yes, they are.

10 Q Why is that?

11 A A number of the cabins are on lands that are selected
12 by either the Village Corporations, Doyon, or part of the
13 D-2 proposals. We have received quite a number of requests
14 from the various agencies and private organizations in-
15 volved asking us to remove unauthorized use from their
16 selected lands. And it's quite a job.

17 Q Is there a lot of unauthorized use of these lands?

18 A There's quite a bit, yes. The problems we've run into
19 is--we follow the regulations and the individual that
20 is in trespass immediately goes to his congressman or
21 congressmen and then we spend considerable time answering
22 congressional inquiries.

23 Q Okay. Now, as I understand the--the easement process--
24 the easement determination process that you've testified
25 to, there is a--a communication sent out by BLM with

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1 a notice of the proposed--of recommended or proposed
2 easements on an area, like this selection area, is that--
3 is that correct?

4 A Yes, that's correct.

5 Q And as a matter of fact, it's entitled, "Notice of
6 Proposed Easements", and it's--it's sent to quite a
7 few people, I think you testified?

8 A Yes, it is.

9 Q And they're all given an opportunity to comment?

10 A Everyone that has responded in the form of nominating
11 easements in--including the--say Natives, or whoever,
12 all receive copies.

13 Q Okay. And as far as you know the only reference to
14 navigability of waters within the area would be contained
15 in that Notice of Proposed Easement recommendation?

16 A You should have been notified--normally before the notice
17 goes out, before the easement report is taken to the
18 task force, we have a meeting with the Village or the
19 corporation, or whoever, and present all the easements
20 that have been nominated to them, to get their comments
21 on them. This is entered into the record, the official
22 record. Then it is presented to the task force for
23 their recommendations. And then the Notice of Proposed
24 Easement are typed up and sent out.

25 Q Okay. So--so this is a lengthy process in developing

1 the easements in this area, is what you're saying?

2 A It can be at times, yes.

3 Q And--and everyone does have an opportunity to comment
4 on the--

5 A Certainly.

6 Q --proposed easements? At several stages, not just
7 when they come out in the final proposed form?

8 A Right.

9 Q Alright. Is there any separate process that you know
10 of, with regard to navigability of these rivers?

11 A I don't quite understand the question.

12 Q Okay. Is it--is--is there any similar process to that
13 process that's concerned only with navigability?

14 A No, because the navigability is in with the rest of the
15 easements.

16 Q Okay.

17 A It's in one report.

18 Q Now, the--the . . . do you have--what's the number of
19 that Exhibit. This Exhibit B-Thirty-seven, would you
20 identify this, the navigability investigation report.
21 I wonder if you could look through that report and
22 tell us whether it contains anywhere in there a con-
23 clusion or determination as to navigability?

24 A (Pause) It's not spelled out explicitly, no.

25 Q Okay. Now, this report is--

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1 MR. LUOMA: Well, wait a minute. How is
2 it spelled out?

3 A Well, Your Honor--

4 MR. LUOMA: And what's the relevance to the
5 document?

6 MS. TAYLOR: Well, Miss Neville brought it
7 up, Your Honor.

8 MR. LUOMA: I--I--yeah, I'm asking Miss Neville.

9 MS. NEVILLE: I believe that that report con--
10 contains the factual evidence that the person who did the field
11 work obtained. I don't think it was meant to--I don't think
12 that the person who--who does the field work is meant to
13 make the determination. I think they're suppose to gather
14 the facts.

15 MR. LUOMA: Well, is there something in the
16 report that--that does have facts about the Nation and the
17 Kandik Rivers?

18 MS. NEVILLE: Yes, there is.

19 MR. LUOMA: Is that the reason you introduced
20 it?

21 MS. NEVILLE: That's right--well, principally
22 because I think that an inference had been raised that in fact
23 no field work had been done--

24 MR. LUOMA: Okay.

25 MS. NEVILLE: --prior to preparation for this

1 hearing, Your Honor.

2 MR. LUOMA: Okay. Miss Taylor.

3 MS. TAYLOR: Okay.

4 Q (By Ms. Taylor) Now, this navigability investigation
5 report is divided into--into two parts, is that correct?
6 The first is a narrative and the second part--

7 A Yes, it is.

8 Q --is a form entitled, "Navigability Field Report"?

9 A That's correct.

10 Q Okay. And this navigability inves--investigation report
11 could be characterized as a field report on the physical
12 characteristics of the river?

13 A Yes.

14 Q Among other things?

15 A Yes, it could.

16 Q Okay. Would it--

17 A There's a description of the field characteristics in
18 here.

19 Q Okay. Is it not in of itself a navigability determina-
20 tion as the--either river, is it?

21 A No.

22 Q Okay.

23 A The individuals, like myself, do not make these determina-
24 tions. All we do is gather the information and present
25 it.

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1 Q And--and this is the sort of report that you might do--

2 A Yes.

3 Q --on a river? Have you--

4 A I have done many of them.

5 Q Okay. Fine.

6 MS. TAYLOR: I have no further questions.

7 MR. LUOMA: Miss Higgins.

8 BY MS. HIGGINS:

9 Q Do you know if copies of the navigability field reports,
10 Exhibit B-Thirty-seven, was sent to the State or Doyon
11 before the BLM determination was made? The determination
12 which is being appealed in this hearing.

13 A Are you referring to this particular case or in general?

14 Q This case.

15 A I have no way of knowing, because I was not there at the
16 time.

17 Q Do you know in general what the procedure would be?

18 A To my knowledge we have not sent them out, the report
19 itself. They are notified that the report is in the
20 public room, it's available for public inspection. And
21 it's there normally after the Notice of Proposed Ease-
22 ments are published for thirty to ninety days.

23 Q Okay. (Pause) Have you described to us in your
24 testimony today all of your ground trips on the Kandik
25 or Nation? I think you described--described like three

1 or four.

2 A Basically there's--yeah, I believe I have.

3 Q These are all of your personal experiences on the ground?

4 A Right.

5 Q Apart from flying over the area?

6 A That is correct.

7 Q Okay. What--what was the date of the trip in which
8 you--you dinged up the--the prop on--on your Gremlin
9 trying to get up the Kandik or the Nation?

10 A July 18th of '78.

11 Q Okay. I didn't know if that was a separate trip or
12 not. (Pause) Did you know when you made your August
13 25th, 1978 trip by helicopter that two historians were
14 in the area trying to interview residents about their
15 activities and use of the river, in connection with--
16 with this hearing?

17 A At the time of the trip . . . I found out when I got
18 back to Eagles, let's put it that way. I had heard
19 one or two weeks earlier--I got a call from our State
20 office and they said that Mr. Brown and someone from
21 the State office was going to be in the Eagle area.
22 And they asked to use our facilities there. And, no,
23 I did not know at the time. I found out when we returned
24 to Eagle.

25 Q Okay.

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1 MS. HIGGINS: Thank you, that's all I have.

2 MR. LUOMA: Anything else, Miss Neville?

3 MS. NEVILLE: I have nothing.

4 MR. LUOMA: Miss Taylor?

5 MS. TAYLOR: Nothing.

6 MR. LUOMA: Let me just ask one question.

7 BY MR. LUOMA:

8 Q Did you sta--state that a--the river above let's say
9 a major waterfall can never be classified as a navigable
10 stream?

11 A This is what we have been told. That if it's not
12 portage--if you can not portage around it, that that
13 portion above it would be classified as non-navigable.

14 Q Would that be true of a river like the Niagara River,
15 above Niagara Falls?

16 A I don't know, Your Honor.

17 Q You just think it's--it's Interior policy to so class
18 it, is that correct?

19 A This was the guidelines we were given, yes.

20 Q Even though you might have major traffic between two
21 cities above the waterfalls?

22 A In that instance it would probably be navigable. What
23 we were looking at is in areas where there are no roads.

24 MR. LUOMA: Okay. Thank you. That's all.

25 Is it time to call it a day?

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1 MR. ALLEN: Yeah.

2 MR. LUOMA: Alright. Let's recess until
3 nine o'clock tomorrow morning.

4 (OFF THE RECORD)

5 * * *

6 5:40 (END OF DAY'S PROCEEDINGS)

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C E R T I F I C A T E

UNITED STATES OF AMERICA)
) ss.
STATE OF ALASKA)

I, Pamela G. Van Sickle, Notary Public in and for the
State of Alaska, residing at Fairbanks, Alaska, and electronic
reporter for R & R Court Reporters, do hereby certify:

That the annexed and foregoing ~~XXXXXXXXXXXX~~ Department of
Interior Hearing was taken before me on the 28th day of
September, 1978, beginning at the hour of 9:00 a.m.,
at the ~~XXXXXXX~~ Federal Building, 101 12th Avenue,
Fairbanks, Alaska, pursuant to Notice to take the ~~XXXXXXXXXX~~
hearing
~~XXXXXXXXXXXXXXXXXXXX~~ on behalf of Bureau of Land Management ;

~~XX~~
~~XX~~
~~XXXXXXXXXXXXXXXXXXXX~~
hearing

That this ~~XXXXXXXXXX~~, as heretofore annexed, is a true
and correct transcription of the testimony of said witness,
taken by me electronically and thereafter transcribed by me:

hearing
That the ~~XXXXXXXXXX~~ has been retained by me for the pur-
pose of filing the same with the ~~XXXXXXXXXX~~ Bureau of Land
~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ as required by law.
Management

I am not a relative or employee or attorney or counsel of
any of the parties, nor am I financially interested in this
action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed
my seal this 8th day of October, 1978.

Pamela G. Van Sickle
Notary Public in and for Alaska

My commission expires: 3/10/81