

Endicott Development Project

Public Hearings

Barrow

1984

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PUBLIC HEARING
FOR THE
ENDICOTT DEVELOPMENT PROJECT
MARCH 1, 1984
7:00 P.M.
BARROW, ALASKA

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PROCEEDINGS

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LTC SAAGE: Good evening ladies and gentlemen, I'm Lieutenant Colonel Lee Saage, Deputy District Engineer for the Alaska District. Colonel Saling, the District Engineer, was not able to attend this evening, so, please accept his apology. Before I continue with my opening statement, I'd like to ask if there's anyone present who would like to have the briefing that we're about to do translated into Inupiat? You would like to have?

UNIDENTIFIED VOICE: Yes.

LTC SAAGE: We have a translator available, and later on in the evening when we'll be taking testimony, if anyone prefers to testify in Inupiat, we'll have the translation available for that also. The Alaska District Corps of Engineers has prepared a draft Environmental Impact Statement on the proposed Endicott Development Project as a result of an application received from Sohio and Exxon petroleum companies for a permit under sections 10 and 404 of the Clean Water Act. The project is proposed to recover oil and gas from the Endicott Reservoir located off the coast of the Sag River Delta and the Beaufort Sea. A representative of those companies will brief you later this evening on the proposed plan. The EIS will form the basis upon which the permit decision will be made. This document has attempted to address the impacts of the applicant's proposed plan, those alternatives that would also meet the applicant's



1 purpose as well as the no-project or no-action alternative. Based
2 on the issues raised during the scoping for the EIS, the impacts
3 that the project may have on the social, cultural and subsistence
4 resources of the North Slope Region are of particular interest and
5 are evaluated in the draft EIS. Through this meeting and three
6 others, we are attempting to gather your views, the public views,
7 on the opinions on the adequacy of this document. Not only do you
8 have this opportunity to provide comments, but should you wish,
9 comments may be provided in writing to my office by March 19th of
10 this year. These comments will become part of the official record
11 for the Environmental Impact Statement. Comments received will be
12 evaluated and will be formally addressed in a final EIS. The final,
13 EIS is scheduled to be published sometime in May 1984. The final
14 EIS will be available for public comments for a period of 30 days.
15 The final permit decision will include consideration of all
16 comments received. Possible permit decisions range from not
17 granting the permit through granting the permit with or without
18 special conditions for the proposed project or for any of the
19 other alternatives as well. There may be refinements in the
20 project before the final Environmental Impact Statement is pre-
21 pared. We want your comments at this time, so that we can start
22 identifying what additional data is needed in order to further
23 address issues of concern to you. The individual on my staff
24 responsible for coordination and preparation of the environmental
25 impact statement is Mr. Richard Gutleber. Richard, will you stand

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1 up so everybody knows who you are?

2 (MR. GUTLEBER STANDS UP)

3 LTC SAAGE: Thank you. David
4 Barrows, sitting to my left, and Mary Leykom of the Regulatory
5 Office, are responsible for processing of the Environmental Impact
6 Statement and for processing of the permit itself and preparation
7 of the record of decision. The consulting firm of Environmental
8 Research and Technology, ERT, is our third party contractor to pre-
9 pare and provide the environmental analysis which will be an
10 important part of the final EIS and responses to your comments.
11 Mr. Robert McDonald of ERT will give a presentation on the impacts
12 associated with the proposed project and its alternatives.
13 Mr. Dave Pritchard of Sohio is here this evening to explain the
14 proposed Endicott Development Project. After these presentations,
15 we will begin accepting both oral and written statements concerning
16 the adequacy of the EIS. For accuracy of the record, all important
17 statements should be submitted in writing. If you are not prepared
18 to submit written comments at this time, comments can be mailed to
19 the Alaska District Office. The address and directions for submit-
20 ting the comments can be found in the transmittal letter for the
21 EIS which I hope everyone received when they came in. If not, we
22 have plenty of copies of those. Again, comments may be received
23 by March 19th of this year. I think I'm going to stop at this
24 point and allow you to do the translation and I'll mark where I
25 stopped, and then we'll proceed with...

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1 (TRANSLATOR SPEAKING)

2 LTC SAAGE: Would you prefer to do
3 it that way, or one sentence at a time?

4 MR. NAGEAK: One sentence at a time.

5 LTC SAAGE: That easier?

6 MR. NAGEAK: Yes. I want you to be
7 aware that the mayor of the North Slope Borough just came in, Eugene
8 Brower, and his boss back there, Charlotte Brower, his wife.

9 LTC SAAGE: Welcome sir, we're
10 pleased to have you. Okay, we'll do one sentence at a time.

11 MR. NAGEAK: (INDISCERNIBLE)

12
13 LTC SAAGE: I'll tell you what.
14 I'll just keep looking at you and when you raise your eyebrows I'll
15 stop, how's that?

16 MR. NAGEAK: Okay.

17 LTC SAAGE: At this time I'd like
18 to introduce Mr. Robert McDonald who will conduct the next segment
19 of our meeting.

20 (TRANSLATOR SPEAKING)

21 LTC SAAGE: After his ten minute
22 presentation and those comments from Mr. David Pritchard of Sohio,
23 I will open the meeting for testimony. I ask that you please
24 limit your testimony to five minutes. If you expect that your
25 testimony will exceed five minutes, please summarize the most

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1 important points, and then submit your testimony in writing for the
2 record. I also ask that any questions that you may have for
3 purposes of information or clarification be directed to me. Cross-
4 examination of witnesses will not be permitted, however, I may ask
5 questions of the witness. The proceedings of this hearing will be
6 recorded verbatim. A transcript may be purchased from the court
7 reporter.

8 (UNIDENTIFIED SPEAKER)

9 MR. NAGEAK: How much are the trans-
10 cripts for purchase?

11 COURT REPORTER: A dollar per page.

12 LTC SAAGE: A dollar per page. Is
13 that in English or...

14 MR. NAGEAK A dollar per page. So,
15 speak short.

16 LTC SAAGE: At this time I'd like
17 to turn it over to Mr. McDonald and allow him to give his presen-
18 tation.

19 OPENING STATEMENT

20 MR. MCDONALD: Like the Colonel
21 indicated, my main job tonight is to briefly summarize the environ-
22 mental effects or impacts associated with the major alternatives.
23 We've been working on this EIS for about the last eighteen months,
24 and as you can tell we have a lot of information. So, it's not my
25 purpose tonight to repeat all that, but to basically highlight



1 some of this information for you. The proposed project would
 2 basically result in a production of 100,000 barrels of oil and 250
 3 million cubic feet per day of natural gas. The project is located
 4 in the Endicott development area that used to be called Sag Duck
 5 Project near Prudhoe Bay. The project consists of two major
 6 components, and I will not go into a lot of detail because Mr.
 7 Pritchard will discuss in more detail those various components.
 8 For the offshore facilities basically consist of the gravel pro-
 9 duction islands and a causeway. The islands and causeways would
 10 be located in about 14 feet of water (PAUSE) 14 foot depth of
 11 water approximately two miles (PAUSE) two or four miles from the
 12 Sag Delta Coastline. The onshore facilities basically consist of
 13 a oil sales pipeline and a gravel access road along with gravel
 14 construction (PAUSE) gravel sites and construction sites located
 15 in the Delta. In the EIS we addressed several alternatives, and
 16 alternatives are necessary to lessen the adverse impacts on the
 17 environment. Tonight, basically, I'm going to restrict my com-
 18 ments to the major alternatives that were addressed and not spend
 19 a whole heck of a lot of time on the minor alternatives.

20 (MR. BROWER ASKS QUESTION IN INUPIAT)

21 MR. MCDONALD: The three major
 22 categories of alternatives that we looked at were three major
 23 alternative categories. The first major alternative of categories
 24 consisted of the number of island configurations. And that con-
 25 sisted of (PAUSE) as the proposed action you have two gravel islands

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1 with the causeway, and the second island configuration consisted
 2 basically of a three island configuration where you had a west
 3 production island, you had a east production island, and you had a
 4 central production island which would be located right in the mid-
 5 dle of these two boxes. Then the last island configuration was
 6 just a one island configuration, here agian, joined by a causeway
 7 which would be located about right over here in the middle again.

8 MR. NAGEAK: Was that for the
 9 first one?

10 MR. MCDONALD: That was the
 11 third one. You have the three. You have the proposed action which
 12 is two islands, and you have the three island alternative, then
 13 you have the one island alternative.

14 MR. NAGEAK: Oh, okay.

15 (MR. BROWER ASKS A QUESTION OF TRANSLATOR IN INUPIAT)

16 MR. MCDONALD: We also looked
 17 at the second major category and that consisted of (PAUSE) of two
 18 causeway alternatives. One would be a breached causeway, and what
 19 we looked at was a causeway with two breaches located in the cause-
 20 way, 46 feet each. The other causeway alternative consisted of no
 21 causeway. We looked at a no causeway in conjunction with any of
 22 the one-, two- or three-island configurations. Under the no
 23 causeway alternative there would be buried subsea lines going to
 24 the gravel islands. Then the last major category was that of
 25 no-action alternative.

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1 Basically, it means no project. In addition, we looked at several
2 smaller component type options, approximately, 25 that are listed
3 in the document which could be used for or could be used in con-
4 junction with any of the major alternatives we just addressed. As
5 far as the environmental overview, what we're basically going to
6 do now is restrict the comments to the offshore sections of them
7 (PAUSE) the project because that's basically where we found to have
8 the most differences, if you will, between the various major alter-
9 natives. The major differences between the three categories of
10 alternatives we noted was found in the areas of physical and
11 chemical, oceanography, risk analysis, and fish and marine systems.

12 LTC SAAGE: Why you don't do them
13 one at a time.

14 MR. MCDONALD: Okay. Let me just
15 take them one at a time. The first (PAUSE) first area deals with
16 physical and chemical oceanography or water quality changes. With
17 the construction of the causeway extending out into the ocean, it
18 was found that there would be a change in the water quality and
19 temperature in the ocean. This change would be noticed about three
20 miles away either side of the islands and the causeways and it
21 would be dependent upon which way the wind would blow. The
22 environmental studies concluded that although there would be a
23 change in the water quality, it would not be (PAUSE) it was felt
24 it would not be significant to substantially affect the marine
25 life and fisheries. When you look at the breach causeway

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1 alternative, where you have the openings in the causeway itself,
2 the openings would allow for the water to circulate, but the circu-
3 lation would not be sufficient enough to significantly change that
4 area of influence associated with the causeway. You want me to...

5 MR. NAGEAK: No, that's all right.

6 MR. MCDONALD: In a course with the
7 last causeway alternative, without the causeway, you would have no
8 affect on the physical and the chemical oceanography or the water
9 quality. You would not affect the water quality with that alterna-
10 tive. The next area of concern that was expressed in the scoping,
11 and we spent a lot of time on, dealt with oil spills and risk
12 analysis. The studies concluded that there would be between six
13 and 14 oil spills a year which... And the amount of oil that
14 would be spilled would be less than 100 barrles per spill. The
15 next major point of the risk analysis studies dealt with where
16 would the oil go once it was spilled, and it varied between each
17 alternative. Basically, what we found was that the risk of environ-
18 mental impact on the coastal lands from a spill offshore was about
19 two times greater with the no causeway than with the proposed
20 action. Another area of concern dealt with the boulder patch and
21 what affect an oil spill would have on a boulder patch.

22 MR. NAGEAK: I read about that, but
23 I couldn't understand what's a "boulder patch."

24 MR. MCDONALD: The "boulder patch"
25 is an area that has been studied in great length and has been

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1 designated as a sensitive biological area because of the kelp
2 growing on the boulders and the fish feeding on the kelp and the
3 vertebrates and the whole works.

4 (MR. BROWER SPEAKS IN INUPIAT)

5 MR. NAGEAK: Okay. When I hear
6 "boulder" I think of big rocks.

7 MR. MCDONALD: And in summary, what
8 we found was that the with either (PAUSE) of the all the major
9 alternatives, the chances of transversing the boulder patch would
10 be the same.

11 MR. NAGEAK: Transversing?

12 MR. MCDONALD: Transvering. An oil
13 spill transversing, going over the boulder patch would be the same.

14 (MR. BROWER SPEAKS IN INUPIAT)

15 MR. MCDONALD: In summary what was
16 that the causeway would help an oil spill from reaching the shore
17 because it would just act as a barrier from reaching the shore-
18 line.

19 (UNIDENTIFIED SPEAKER SPEAKS IN INUPIAT)

20 MR. NAGEAK: Is it probable that
21 there could be some questions from the audience as you are
22 explaining these things?

23 LTC. SAAGE: I'd prefer to let
24 him get through the briefing first, and we can stop at that point
25 and have questions.

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(MR. BROWER SPEAKS IN INUPIAT)

MR. NAGEAK: The concern is that you're covering a lot of ground and it's pretty hard, especially when you're using big words to keep in mind the questions you might have concerning the different major alternatives.

LTC. SAAGE: Okay. As long as the questions are only for purposes of clarification, then we'll go ahead and take them at this time.

(MR. BROWER SPEAKS IN INUPIAT)

MR. NAGEAK: He has two questions over the...

MR. BROWER: How is it it's one barrel when you're saying 100 barrels?

MR. MCDONALD: I think it's 52 (PAUSE) 52 gallons per barrel.

MR. PRITCHARD: Forty-two.

MR. MCDONALD: Forty-two, excuse me.

MR. BROWER: Forty-two? So, that's 4200 gallons?

MR. MCDONALD: Forty-two.

Mr. BROWER: One of the concerns is that the building of the causeway, you say, that will prevent affecting the shoreline of the delta there, and the concern is that the west wind and also the east wind, what we call the

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1 west and the east, and also the current that is within that area.
2 Are you talking about when you're saying that the shoreline will
3 not be affected by oil spill, only talking about the east wind?

4 MR. MCDONALD: We looked at it in
5 all different wind conditions. And we also looked at a spill from
6 either the west island or the east island, and what we ended up
7 with is a synopsis of all those statistics, and that's in that
8 document, but that was the final, you know, the final result. Once
9 you add all those numbers together was that it did show that from
10 a statistical standpoint that it would be (PAUSE) the causeway
11 would help prevent the oil spill from reaching the coastal area and
12 also from reaching Howe Island. This was the same concern that
13 EPA had, and so, we had to do some additional sensitivity analysis
14 of the... We had to do some additional analysis to make sure tha
15 the wind conditions were taken into consideration.

16 MS. IPALOOK: How long was the
17 study?

18 MR. MCDONALD: Pardon?

19 MS. IPALOOK: How long was the
20 study?

21 MR. MCDONALD: The overall study
22 itself was 18 months.

23 The last major area I wanted to
24 discuss dealt with fish and marine systems. As you might imagine,
25 buidling a causeway and gravel islands in the ocean would affect

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1 the bottom habitat of the ocean. The amount of bottom habitat
2 removed would vary from, approximately, 300 acres with the pro-
3 posed action to 100 acres with the no causeway alternative. As
4 far as the causeway and the affect on the fish migration, it was
5 the conclusion of the study that the causeway would not drastically
6 affect the fish migration. However, the breach causeway, with the
7 location of the breaches would help facilitate fish passage through
8 the breach with that alternative. And with the no causeway alter-
9 native, the whole issue of fish migration would not be apparent
10 because the causeway would not be there to provide a possible
11 barrier to fish migration. The last major area under the fish
12 marine systems dealt with the disposal of the drilling mud effluence

13 (MR. BROWER SPEAKS IN INUPIAT)

14 What would be happening would be that the drilling muds would be
15 discharged off the north edge of the island and then they would be
16 deposited, depending on the wind conditions, either to the east or
17 to the west. Again, using the boulder patch as a sensitive area,
18 it was determined that with the proposed action, there would be
19 about 400 acres of the boulder patch affected by the disposal of
20 the drilling muds.

21 MR. BROWER: One question for you.
22 Four hundred acres of the boulder patch are going to be affected.
23 Would you relate that into a quarter mile square? What? Is
24 that an eighth of a mile?

25 MR. MCDONALD: Four hundred acres,

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1 what's 400 acres? That's about a section, about a square mile.

2 MR. BROWER: Okay. What's the area
3 that encompasses that's utilized by the the boulder patch area,
4 what's that total acreage?

5 MR. MCDONALD: That turns out to be
6 about three-hundredths of a percent of the boulder patch area.

7 MR. BROWER: Three hundred percent
8 of the whole area?

9 MR. MCDONALD: Yes. Excuse me,
10 two-hundredths percent of the total boulder patch area.

11 MR. BROWER: Are you going to kill
12 them all?

13 MR. MCDONALD: Pardon?

14 MR. BROWER: Are you going to kill
15 them all?

16 MR. MCDONALD: No, no. Two-
17 hundredths of a percent. Less than one percent.

18 MR. BROWER: Oh, okay.

19 MR. ALBERT: Sounded like he said
20 300 percent.

21 MR. BROWER: I thought you had said
22 300 percent.

23 MR. MCDONALD: I meant 300 acres.
24 Did I say 300 percent?

25 MR. ALBERT: No, it just sounded

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1 that way.

2 MR. MCDONALD: That represents about
3 2 percent. With the no causeway, it turns out to be about 62
4 acres. So, it would be less with the no causeway. And with the
5 breach causeway, it'd be about the same as the proposed action as
6 far as the influence on the boulder patch.

7 MR. BROWER: Now, is that the area
8 where you have the boulder patch and the whole Artic right there,
9 or is there any other area that has that behind them?

10 MR. MCDONALD: I'm not sure I can
11 answer that question. There's a lot of controversy over the defi-
12 nition of "boulder patch." It's my understanding that there are
13 boulder patches located elsewhere, but in this immediate area, it's
14 my understanding that this is the only identified boulder patch.

15 I'm not going to go in any detail
16 on the other environmental resources, such as botanical resources,
17 birds and wildlife. It's not that I'm trying to short those
18 environmental disciplines, but the summary in the EIS pretty much
19 states what those environmental impacts are, and the environmental
20 impacts for all the alternatives are basically the same as those of
21 the proposed action. The last major alternative I wanted to talk
22 about is a component option called "the west dock pipeline route."
23 This basically would be utilizing a subsea pipeline from the
24 production islands over to the west dock. This would result in
25 the disturbance of about 17 miles of the ocean floor as compared

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1 to building the pipeline on the Sag Delta Route. In summary, the
2 only other point I wanted to bring up was the fact of how we try
3 to handle the alternatives in the document. What we did is, we
4 started with the proposed action and presented the detailed environ-
5 mental analysis for each of the disciplines. Then we presented
6 each of the major alternatives, and if the analysis did not change
7 between the proposed action and the other alternative, we did not
8 repeat it again, we just referred back to the proposed action.
9 Colonel, I turn it back to you.

10 LTC SAAGE: Thank you for your 10
11 minute presentation. I'd like to ask Mr. Dave Pritchard now, to
12 please present a brief description of the applicant's proposed
13 alternative.

14 MR. NALIKAK: Could we ask, maybe,
15 some questions as we go along? As long as they don't get out of
16 line?

17 LTC SAAGE: If there's something
18 that you do not understand that was explained during the briefing,
19 yes, stop and we'll let you ask a question. Is there something
20 you'd like to ask right now?

21 MR. NALIKAK: No, not right now.

22 MR. BROWER: I've only got one
23 question. You're giving them 10 minutes to make their presenta-
24 tions, present evidence, the people requesting the permit to
25 build a causeway, am I not right? You're giving them 10 minutes

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1 to make their presentation?

2 LTC SAAGE: That was in theory,
3 yes.

4 MR. BROWER: In theory? You know,
5 it's kind of one-sided. The people from the other side that are
6 removed from this document are given only five minutes, when the
7 applicant is given 10. Getting a little to process there, you
8 know. We might have some questions to ask down the road.
9 I'd like to request that the person that's speaking, since he's
10 only given five minutes to make their presentation and they've got
11 10, that these people come back after the presentation, after
12 everybody speaks, ask more questions with a little more detail.
13 It's kind of hard to just highlight the issue in a very important
14 documentation of a causeway. It's kind of foolish to say you've
15 only got five minutes to speak your piece, and if I'm going to
16 speak my Native language, five minutes is just (snaps fingers)
17 like that.

18 LTC SAAGE: Well, Mayor Brower, I
19 appreciate that and with the small number of people we have here
20 tonight who are planning to testify, I'm going to grant some
21 leniency on the five minute limit, as I, obviously, already have
22 on the 10 minute limit.

23 MR. BROWER: (INDISCERNIBLE)

24 LTC SAAGE: However, I would point
25 out that some control has to be maintained, or there may be people

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1 here tonight who have other places they need to go who would like
2 to testify, who may not have a chance. Also, if detailed testimon.
3 is needed, then I'd ask that you submit that detailed testimony in
4 writing to make sure that there isn't any confusion.

5 MR. BROWER: What I'm saying,
6 Colonel, you have ample time between now and midnight for everybody
7 who makes their statement, if somebody wants to make an issued
8 statement on top of what they said in the beginning for point of
9 clarification or more detail after everybody gets to speak. That's
10 what I'm asking; to have an additional chance to speak after every-
11 body makes their testimony.

12 LTC. SAAGE: Do the people who are
13 making testimony have an additional chance to speak after testify-
14 ing?

15 MR. BROWER: Yes, after everyone
16 testifies, is what I'm saying.

17 LTC. SAAGE: Not for the record, no,
18 but we can certainly stay around after the formal part of this is
19 completed for discussions.

20 MR. BROWER: This is no two process
21 (INDISCERNIBLE). I'm going to contest that five minutes is not
22 ample time. If you give them ten minutes, maybe, yes, but five,
23 you're lining them up like you're shooting from a machine gun.
24 Trying to cover all areas. Ten minutes, maybe, yes, but five, man
25 you are going to have to go full bore to make your presentation.

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1 LTC SAAGE: Well, the sooner we get
2 started, probably, the greater latitude we'll have to allow
3 perhaps a little more time for testimony.

4 MR. BROWER: Okay.

5 LTC SAAGE: Mr. Pritchard --

6 OPENING STATEMENT

7 MR. PRITCHARD: I'll try to give a
8 brief overview of the applicant's proposed projects. The current
9 status of the project is that preliminary engineering is nearing
10 completion. This was started at about the same time the DEIS
11 was started and will be followed by a definitive cost estimate and
12 the start of detailed engineering. Our objective is to get
13 ourselves in the position where we can make the decision as to
14 whether to proceed with the project or not in the fall of this
15 year. We have always said that the project is economically
16 marginal and at this point it is tough to call which way the
17 development decision will go. However, a major factor in our
18 ability to take that decision will be the receipt of major permits
19 by fall of this year. Engineering has been progressing at the
20 same time as the DEIS has been moving forward. During this engi-
21 neering, we've made some design refinements which I'd like to
22 convey to you this evening. The refinements that have been made
23 are well within the scope of the project that was addressed in the
24 DEIS. The overall scope is best seen by the slide which shows the
25 general location.

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1 (TURNS ON OVERHEAD PROJECTOR)

2 We have here the two gravel islands.
3 The main production island in the west and the satellite drilling
4 island in the east. Both of the islands have wells. In addition,
5 the main production islands has the production facilities, the pro-
6 cessing facilities as well as such things as camps and seawater
7 intake. The islands are connected to each other and to the shore
8 by a gravel causeway which has two functions. The first function
9 is to commence road communication to the islands year-round, which
10 is excellent for operational reliability. Because the islands
11 would be accessible by roads, this would practically eliminate the
12 need for such things as helicopters and air cushion vehicles. It
13 would also practically eliminate the need to use boats in the
14 project area except for barges which would bring up the modulariz
15 process facilities to this island during the construction period.
16 The causeways would also carry the pipelines between the islands
17 and from the main production islands to the shore. When the pipe-
18 line comes ashore, it follows an area of relatively high grounds
19 between the west fork and the east fork of the Sagavanirktok
20 River, down through this area. At about drill site 9, the roads
21 join the existing Prudhoe Bay unit road network and the pipelines
22 follow existing Prudhoe Bay unit pipeline corridors to their desti-
23 nations.

24 MR. NAGEAK: You said drill site 9?

25 MR. PRITCHARD: At about drill site

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1 9, yes. Right here.

2 Previously, we had a main construc-
3 tion camp located in this area on a 50-acre gravel pad. Now, we
4 have located that camp on the main production islands. Gravel
5 for the project would be obtained from gravel sites in this area
6 in here. We have one gravel site identified which is directly
7 underneath the double S in the word "crossing" here, slightly to
8 the east of drill site 9. We are about to do some boring work to
9 investigate the feasibility of using two other gravel sites. One
10 is located by the area marked "onshore disposal pit" and the other
11 one is about a mile northeast of that location. Because we have
12 moved the main construction camp offshore, we see a need for a
13 250-man camp at the gravel site. The camp would be located within
14 the boundaries of the gravel site and would be removed on comple-
15 tion of the gravel work. This area here we have identified a need
16 for a 15-acre gravel patch of which ten acres would be used for
17 cold storage and for construction work. The remaining five acres
18 would be a pit for disposing of drilling mud and cuttings that were
19 contaminated and, therefore, unfit for disposal from the islands.

20 MR. BROWER: Where is your site
21 location you're talking about for your drilling mud disposal site?

22 MR. PRITCHARD: It would be in that
23 area there. That's 15 acres of which 10 would be for the cold
24 storage and the construction pad and the remaining five would be
25 for the onshore mud disposal.

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1 would have to dredge an area out here to bring the barges in. At
2 the north end of the island is the seawater intake, and here we see
3 the breakwater, either a new breakwater or Endeavor Islands. Also
4 on the north end of the island are the main construction camp and
5 the base operation camp. Down here we have an area where there
6 are no facilities and we have put the flare at this point.

7 MR. BROWER: Flare?

8 MR. PRITCHARD: The flare to burn
9 any gas during upsets, emergencies and so on.

10 MR. NALIKAK: Which end of the
11 island are you going to put your drilling mud cuttings?

12 MR. PRITCHARD: Those would go some-
13 where off the north end of the islands. We still got to work some
14 more on that. We want to keep it out of the way where they'd
15 come back into the water intake. Probably, either out here or
16 perhaps off the breakwater.

17 MR. BROWER: The drilling mud?

18 MR. PRITCHARD: Yes.

19 MR. BROWER: Noncontaminated or
20 contaminated?

21 MR. PRITCHARD: No, just the non-
22 contaminated.

23 MR. BROWER: I suppose the noncon-
24 taminated is going straight out to the ocean? They go straight
25 from your drilling, or where's that noncontaminated drilling coming

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1 from?

2 MR. PRITCHARD: Well, you can't
3 really see it in here, but in about here somewhere, we have a mud
4 recycling plant, a mud conditioning plant. We'd try and recycle
5 and reuse as much of the mud as possible, and the mud we couldn't
6 reuse, we'd check that it wasn't contaminated. If it wasn't we'd
7 dispose of it off the island; if it was, we'd either dispose of in
8 the pit on shore or down a disposal well.

9 MS. IPALOOK: Where is the disposal
10 well disposing (INDISCERNIBLE)

11 MR. PRITCHARD: It would probably
12 be into one of the crustaceous formations below the perma frost.

13 MR. NAGEAK: Crustaceous what?

14 MR. PRITCHARD: That the crustaceo
15 formation, which is shallow formation below the perma frost. The
16 next slide shows the satellite drilling island, and as you can see,
17 this is smaller than it was before because now it has only 50 wells
18 on it. And that concludes my overview of the applicant's preferred
19 case.

20 MS. LONCAR: The outer berming area,
21 it looks like it would have been on a slope.

22 MR. PRITCHARD: This here. This is
23 a kind of a bench approach. There's a slope and then there's a
24 little bench and then there's a little bit more slope, for slope
25 protection and also to minimize the effect of wave run up. If

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1 you'd just put the previous one up. It's around here and here and
2 these corners are judged to be the critical areas for slope
3 protection. This is one you see from those corners.

4 LTC SAAGE: Mayor Brower, --

5 MR. BROWER: Yes, I'd like to go to
6 one of your first two diagrams you showed on your causeway. I've
7 got a question. Looking at your causeway there, look at where you
8 have the bow there, what is going to be a life cycle costing cost
9 over a 30-year period for the life of that field to replace your
10 gravel that's being eroded away by wave action or by natural
11 processes of the type. What are you looking at as your life
12 cycle costing cost to the company for over a 30-year period during
13 the life of that project?

14 MR. PRITCHARD: I don't have that
15 number right now, and one of the reasons I don't is that we're
16 still working on slope protection. We try and minimize the amount
17 that got washed away by putting on the right kind of slope protec-
18 tion. There's a variety of ways of doing that. You can have a
19 very shallow slope, is one way to do it. Another way to do it is
20 with gravel bags, or you can do it with concrete blocks, and there
21 are many different ways to do it. And the type of slope protection
22 you put on kind of determines how much gravel you have to replace
23 every year. Also, you can't see this real well because it's a
24 long way away from you, but most of the causeway is in less than
25 4 feet of water. So, we're not expecting a whole lot of wave

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1 action in water this shallow. I think that's the 4 foot contour
2 right there. So, will the rest of the causeway onshore in that
3 area is in less than 4 feet --

4 MR. BROWER: Roughly 4 feet of
5 water?

6 MR. PRITCHARD: Yes.

7 MS. IPALOOK: Where is the dredging
8 work to be done?

9 MR. PRITCHARD: The process
10 facilities are about there, and there would be a kind of maneuvering
11 area about 500 feet square there, and then a channel to get out to
12 where the water gets a little bit deeper. You can probably see
13 that the contours are a little bit bunched up here. There's a
14 kind of shelf we'd want to get out into that area of deeper water

15 MS. IPALOOK: How deep will you
16 dredge?

17 MR. PRITCHARD: Pardon me?

18 MS. IPALOOK: How deep will you
19 dredge?

20 MR. PRITCHARD: We need a water
21 depth of something like 14 feet, I believe.

22 MS. IPALOOK: Fourteen feet added
23 to the depth of what's already there?

24 MR. PRITCHARD: No, no, no, to get
25 a total draft of around 12 or 14 feet, and about there the water

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1 depth is about 8 feet, I think. So, you're talking about dredging,
2 something like, 4 to 6 feet.

3 MR. NALIKAK: And that would put
4 your islands in about 4 or 5 feet of water too, wouldn't it?

5 MR. PRITCHARD: Yes, the islands
6 are situated right on this kind of slope, and there's quite a bit
7 of difference between the water depth at this end of the island and
8 the other end of the island, and that was a factor in locating
9 the island.

10 MR. NALIKAK: So, like, part of
11 the north end of the island would probably be in about 10 feet of
12 water.

13 MR. PRITCHARD: I believe it is.
14 I believe it's in about 10 feet of water which is what we felt we
15 needed for the water flood intake to assure a year-round supply of
16 seawater. And this end is in about 5 or 6 feet.

17 LTC SAAGE: Let me stop you a
18 moment. This procedure is okay if it makes you feel good about
19 gaining information, but I need to point out that this kind of an
20 interchange is impossible for the reporter to figure out who's
21 talking and what's being said. Now, I doubt that all of this is
22 going to go in the record. If you have a question at this point
23 for clarification which you wish to have in the record, then,
24 please state your name, ask your question and I'll allow the
25 speaker to respond. If you're only asking it for your own

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1 edification, no concern about the record, then, proceed. Are there
2 any other questions at this point?

3 MR. ALBERT: My name is Tom Albert
4 and I have a question which is a follow-up to what the mayor just
5 asked a few minutes ago, and I may have missed it, but you didn't
6 give him information on costs, and that's what he asked. Do you
7 have any information on the costs of this?

8 MR. PRITCHARD: Yes, we do have
9 information on the cost of the project and the alternatives which
10 we will be submitting with our written comments on the DEIS. I
11 believe, we have made a copy of that available to the North Slope
12 already.

13 MR. ALBERT: Could you tell us
14 right now the answer to the question he asked, and this is what
15 might be the 20 or 30 year cost for maintaining that thing?

16 MR. PRITCHARD: No, because I don't
17 have the answer to that particular question. I don't have it with
18 me.

19 MR. BROWER: From the top of your
20 head.

21 MR. PRITCHARD: I don't even have
22 it on the top of my head because I just don't recall seeing that
23 degree of detail on that.

24 MR. ALBERT: Just to conclude, this
25 question is very strange to me. Does the company proceed on

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1 the detailed engineering or even show engineering with no cost
2 estimates, or is it the information exists, it's just that you
3 don't have it available to you? Is that what you're saying?

4 MR. PRITCHARD: Yes, I can answer
5 that question in two pieces. The answer to your second piece is
6 I do not have that specific piece of information with me. I'm sure
7 it exists. The answer to the first part of your question is that
8 as you get further and further along in design, you get better and
9 better in more definitive cost estimates. And as I mentioned at
10 the beginning of our presentations, one of the things we're going
11 to do when we complete preliminary engineering is do a definitive
12 cost estimate. Now, we've been doing cost estimates of better and
13 better degrees of accuracy all the time as we've gone along, but
14 you can't really do your definitive one until you finished all
15 your engineering. But you try and get yourself a roadmap as you
16 go along, so, you've got an idea of what these different things
17 are costing you.

18 LTC SAAGE: Thank you, Mr. Pritchard.

19 MR. BROWER: Can we take a 10
20 minute break for coffee?

21 LTC SAAGE: Yes. We're going to
22 take a short break while I shuffle through these cards and get
23 these organized to call people for testimony. Everyone who's sub-
24 mitted a card and has indicated that he wishes to testify, will be
25 given the opportunity. Any of you who may have changed your mind

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1 since filling out the card, I'll offer you an opportunity to
2 testify also once we've gone through these. So, anyone who's here
3 tonight who wishes to enter testimony into the record, will be
4 given an opportunity to do so. And both Mr. Pritchard and
5 Mr. McDonald will be around during this brief break if you would
6 like to talk to them, perhaps, for clarification of some other
7 points, you're welcome to do so.

8 (OFF THE RECORD)

9 (ON THE RECORD)

10 LTC SAAGE: The first person
11 offering testimony this evening will be Mayor Brower.

12 MR. BROWER: How do you wish me to
13 speak, Colonel, in my Native language or in my second language?

14 LTC SAAGE: Your choice, sir.

15 MR. BROWER: I'll speak in the
16 second language which is very hard to speak at times.

17 TESTIMONY BY

18 MAYOR EUGENE BROWER

19 MAYOR BROWER: I'd like to thank
20 you for the effort to speak on behalf of the North Slope Borough
21 in reference to this Endicott Project. This is supposed to be a
22 proposed industrial action, and the possible environmental state-
23 ments on this issue. Your EIS is supposed to present several
24 alternative designs for us to present comment on this issue. But
25 like I told you earlier today, in a meeting that the... I'm

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1 getting the feeling that the Corps would rollover to the requests
2 from Sohio in reference to this causeway. And I don't know how the
3 Corps is going to take this, but based on the analysis of myself
4 and my staff there's just not enough comparative detail, especially
5 regarding alternate designs, to make a full assessment. On the
6 alternate designs you wrote up about 82 pages on seven design
7 alternatives. Of those seven alternatives, four speak to the
8 island plus the causeways. You could almost categorize them into
9 one section. That only leaves you with a breached causeway alter-
10 native, no causeway alternative, or no action alternative. The
11 whole impact, the EIS here, based on your past performance of
12 putting up the EIS's, in my estimation, is well below par for the
13 level that's been put out in the past. And I don't have a whole
14 lot to say except that I, as a representative of the North Slope
15 Borough, totally oppose this causeway concept. There's talk about
16 over 3 million cubic yards just in gravel to cover, roughly, five
17 miles. You're talking about a 4 foot level of water. But based on
18 the reading, I thought we were talking about between 15 to 18 feet
19 of water in the whole area, but based on the presentation made by
20 Sohio, you're talking roughly 4 feet of water that's going to be
21 building this causeway. It does not adequately give us, in my
22 estimation, a whole lot to say on this EIS except that I really
23 oppose it, and my staff are going to make some more detailed
24 remarks in reference to this proposed EIS before it goes into final
25 stage. You're talking about, roughly, 100 barrels of oil that

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1 might be put out in the ocean. I thought a drum was a 54-gallon
2 drum, unless you have special containers that are below the 55-
3 gallon drum capacity. You only talked about 42 gallons. I need
4 a little clarification on that. Are the drums you're talking
5 about below the 50-, 55-gallon capacity, is my first question?

6 LTC SAAGE: Is that a question, sir?

7 MAYOR BROWER: Yes, that's a
8 question.

9 LTC SAAGE: Mr. Pritchard, what is
10 the size barrel we're talking about? Is it a 55-gallon barrel, or
11 a 42-gallon barrel?

12 MR. PRITCHARD: I got to assume
13 that ERT used the conventional 42-gallon barrel. A barrel is a
14 unit of measurement. That's 42 U. S. gallons --

15 MAYOR BROWER: Let's put it this way.
16 When anybody drums up gas or diesel here, it's 54 gallons, not 42.
17 So, that's why I'm making my assumption that you're talking about
18 the 52-gallon or 54-gallon capacity on a drum instead of 42. Not
19 only purchase drums, fills and quantities, it's in the 50-, 55-
20 gallon drum with about 54 gallons of whatever petrol product is in
21 that drum. If you're roughly talking about 100 barrels, you're
22 talking about 5,400 gallons of oil. That's how we would relate it
23 up here. It's a good size spillage you're talking about. It's not
24 minute by any standards. It might be minute in the Lower 48, but
25 if you're spilling a 100 barrels of oil in a year's time, that's

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1 quite a lot. I made some little notes here based on your section
2 that... What is the total percentage of the total gravel require-
3 ments in Prudhoe Bay you're talking about? You're talking about
4 3 million cubic yards, what percentage of the reserve are you
5 talking about in the total Prudhoe Bay area? I'm asking the
6 question to the man from Sohio, who's supposed to be the project
7 manager of this area. Are you talking about 10 percent, 40
8 percent, 50 percent of the total known reserves for this project?

9 LTC SAAGE: I believe there is an
10 estimate in the draft Environmental Impact Statement as a percent
11 of total reserve. Do you know what that is offhand, Mr. Pritchard?

12 MR. PRITCHARD: I don't offhand.
13 I do remember when we were looking at potential gravel sites, we
14 identified something like 60 million cubic yards, and those were
15 just of the ones we looked at. So, 3 percent of the 60 million
16 cubic yards would be about 5 percent.

17 MAYOR BROWER: You're talking about
18 5 percent. This is the first one of its kind we're talking about.
19 So, you start making all this other designs about going into pro-
20 duction down the road. Looks to me like it's costly. It's not
21 adequate. And I would request that the Corps tell Sohio to look
22 at different alternative methods other than just what is being
23 presented here. It's normally strictly all causeway. Solid core
24 type thing all the way down with very little emphasis on different
25 types of design alternates that we can look at. My recommendation

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1 is you look at, maybe, what's being done over at Oliktok point,
2 using a pilot, a steel pilot, that we discussed earlier which my
3 staff is going to be bringing out later on, and your life cycle
4 costing analysis of this thing would be a lot cheaper and more viably
5 sound. I think what we're talking here about is some establish-
6 ments that have been used down in the Lower 48. But right now
7 we're talking about a little different environment. We're concerned
8 about the resources that my people live off of. True, we can't
9 live without the dollar anymore, but when the oil and the gas all
10 deplete from that area, and you've done quite a bit of environ-
11 mental damage to that area, who's going to bring the resources back
12 to us? Is the Corps? Sohio going to bring it back to us? Or are
13 you going to feed us, maybe, a certain amount of meat per family
14 per year, like was tried once before to the people. Five pounds
15 of beef is supposed to last you a full year, and you know the
16 consumption in the whole United States per family is about what,
17 a full beef, full cattle, full cow? When you start making compar-
18 isons with these things, you're talking about our environment.
19 Our environment is that. It's outside, you all know it. But
20 reading this thing, I'm totally against it, and against the
21 building of this causeway. It's not adequate enough for us to make
22 a very detailed assessment on the different alternative designs.
23 And once this is taken, it's going to be the precedence set on all
24 future causeways that are going to be built. So, I'm going to
25 request that the Corps take a good hard look at what is being

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1 requested here. And once the Corps decides to go ahead with this
2 Endicott Project, without making a full assessment, every other
3 company or unit operator over there that wants to build a causeway
4 is going to follow what is being done here by Arco, I mean, by
5 Sohio. There's not enough information to do anything, and I can't
6 really make a full assessment, but you'll be getting my full
7 written comments by the date you're requesting. Do you have any
8 questions?

9 LTC SAAGE: No, sir.

10 MAYOR BROWER: That's easy. Any
11 questions from you?

12 MR. PRITCHARD: No.

13 LTC SAAGE: Thank you very much,
14 Mayor Brower.

15 MAYOR BROWER: Thank you, but one
16 more thing I want to look at here on this west dock you folks were
17 talking about earlier, before I make my conclusion. You're talking
18 about 17 miles of pipeline, buried pipeline. Now where's the west
19 dock you're talking about? Here? Where's the west dock you're
20 talking about? Where does it end, right here? Pump station 1 or
21 where?

22 MR. MCDONALD: Onshore. Right
23 here. You come onshore right here and then follow existing right-
24 of-ways onshore right here.

25 MAYOR BROWER: Okay. What kind of

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1 impact is it going to have on the Delta area, is my other question?
 2 That the fish that migrate into the different channels into this
 3 area or if there's any wildlife there, is my next question. I
 4 would very much urge you, Colonel, that you take a different
 5 alternative rather than what is being said here on this solid
 6 causeway. It's not adequate enough. Thank you.

7 LTC SAAGE: Thank you, sir. Next
 8 we have Mr. John George. Mr. George --

9 TESTIMONY BY

10 JOHN CRAIGHEAD GEORGE

11 MR. GEORGE: My name is John
 12 Craighead George. I'm with the North Slope Borough Environmental
 13 Protection Office, and I'll do my best to stay within the allotted
 14 time. Let me know if I'm running over. As I reviewed the docu-
 15 ment, it became immediately apparent to me that the major concern
 16 were the effects of this thing on fisheries. And I'll just take
 17 you through the progression I went through in reviewing this thing.
 18 I read the summary which said, basically, that there would be...
 19 The summary of the fish and marine mammals section that the major
 20 impact from the proposed alternative would be the potential loss
 21 of 5 percent of the spawning biomass of broad whitefish, and
 22 that this loss would be considered well within the sustainable
 23 yield of this species. So, in other words, I inferred from that,
 24 a 5 percent loss of this population would not constitute a major
 25 problem. And that too, broad whitefish were the key indicator

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1 species for the rest of anadromous fish. Then, in trying to figure
2 out how this was arrived at, I went through the text and I, again,
3 read a more detailed account of the same thing, and then, was re-
4 ferred to the appendix which has the models in it. These assess-
5 ments were based on models that are laid out in there, and I read
6 through the model as best I could. Again, it reiterated that with
7 the first fish stock assessment model, this was to address the
8 significance of project related impacts on anadromous fish. Again,
9 the broad whitefish was the indicator species for the rest of the
10 anadromous fish. And then looked briefly at the differential
11 equasions and stuff I don't understand completely, and then read
12 what the authors, the people that actually ran the model, what they
13 said, adn I quote right from the document, that "the impact assess-
14 ment hypothesis are qualified in terms of major uncertainties
15 concerning the assumptions upon which they are based." It goes on
16 to say a number of other things about the information and concludes
17 with saying that "such information comprises the basis for a recom-
18 mendation of monitoring activities." Then the next stage in the
19 progression is why do they think there are major uncertainties in
20 their projection? Why do they qualify the model? Then you go back
21 into this document and you find out on page 319, I think it is,
22 that they did not have sufficient temperature salinity in fish
23 catch data to really run the models properly. So, they contracted
24 in the summer of '82 NORTEC, to go back and do more detailed
25 analysis. I assume industry did that. And then

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1 you see the salinity data that were... There were five stations
2 out in the Delta, two of which gathered salinity data and there
3 were two fyke net stations that gathered some chemical oceanography
4 data. And then, that led me to this document here which has the
5 models by the authors that developed them, and you find that
6 models in here were developed over a long time period and based on
7 considerably more data than this than in the Sag River case. And
8 that led me to the second model which is used to, this is awfully
9 convoluted, but this is the way this thing is setup, which
10 considers the effects of water quality on the fish in the area.
11 And that is precisely the work that was done by L. G. L., Ben
12 Galloway in these papers on Artic cisco. And, again, if you go to
13 page C51 and read what the modelers said about their second
14 attempt at determining what was going to happen to the fish in co.
15 sidering the causeway, they go on to state (PAUSE) the authors noted
16 that "that the only basis for an evaluation of the model was
17 whether it successfully mimicked relative changes in observed
18 fyke net catches. And further, that it, this model, had not been
19 tested against an independent data set." Well, the first point is
20 that the only way to evaluate this model is whether it can mimick
21 fyke net catches. If you go back and look at this test they ran,
22 it only mimicked the fyke net catches in one of the two stations
23 they checked. So, in other words, there was only 50 percent
24 accuracy. Then they go on further and say "the model must be
25 considered conceptual because it has not been demonstrated;

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1 however, if properly used, that is demonstrated, it is a valid tool
 2 for impact analysis." So, after all this, where I'm left is that
 3 I don't think we can use these conceptual models to determine
 4 whether this enormous project is going to be environmentally safe.
 5 And furthermore, if it is used and this is used as a precedent for
 6 other projects, I think we're looking at some serious effects to
 7 the fisheries considering additional causeways and things of that
 8 nature. Also... I know I'm probably over my five minutes. Is
 9 this okay?

10 LTC. SAAGE: Go ahead.

11 MR. GEORGE: I had worked for
 12 Woodward-Clyde Consultants in the summer of '81 in which we gather-
 13 ed some physical oceanography data in this area, and we had a bad
 14 field season due to a number of problems. Excuse me, Woodward-
 15 Clyde, for saying that publicly, but anyway, I think that was part
 16 of the reason they had to go back in '82. But I was well aware
 17 that out in the Sag River Delta, we encountered these channels that
 18 were at the mouths of the major river channels that would extend
 19 out into the Delta where there's no bathmetry information in this
 20 document about. And I went back to my old cronies and we found
 21 out, we laid out on a map where exactly these channels were, and
 22 then on a USGS map I superimposed the causeway, and low and behold
 23 the project causeway, and it looks like it's been changed, but it
 24 did cross one of these many channels. And one of the fishery
 25 biologist I consulted with said, about the particular channel it



1 crosses, that it's actually a concentration of small inner connect-
 2 ed channels restricted within the pencils lines of (INDISCERNIBLE,
 3 And that as far as he knows, there's no documented hydrological
 4 data or fisheries data on these specific channels. We believe, and
 5 I've gathered this from subsistence fishermen in the area, that
 6 these channels are extremely important for fish ex-migration and
 7 immigration into the Colville River area, into the Sag Delta. And
 8 they're only given lip service in here, and, obviously, completely
 9 ignored in the placement of the gravel causeway. So, it's some-
 10 thing that shows insensitivity in the planning of this thing.
 11 Those are very specific comments, and I'm sure uses up my time.

12 LTC. SAAGE: I understand you're
 13 planning to submit comments as well. Are you planning to submit.--

14 MR. GEORGE: I am, yes.

15 LTC. SAAGE: -- those now or by mail
 16 later on?

17 MR. GEORGE: Hopefully, they'll be
 18 less concoluted than my verbal comments. Thank you.

19 LTC. SAAGE: Thank you very much,
 20 Mr. George. Next we have Dr. Tom Albert.

21 TESTIMONY BY

22 DR. TOM ALBERT

23 DR. ALBERT: My name is Tom Albert.
 24 I work for the North Slope Borough's Environmental Protection Office..
 25 And I've had the good fortune to work up here since 1975, this



1 making about the fifth year that I've been here, let's say, full-
2 time. In the time that I've worked with the Borough examining
3 environmental impact statements, I have to admit that this is by
4 far and away the most impressive document that I've seen in at
5 least one respect, and that is it's weight. It is probably very
6 close to one of the most inadequate that I've ever seen in tech-
7 nical detail. Now, first of all I want to make a comment about the
8 five minute period, or whatever, which I view to be unfortunate
9 and makes it very difficult for people to adequately comment here.
10 This thing has got so many problems that, I think, one would be
11 hard pressed to get over in five minutes, but I'll, maybe, extend
12 a little bit beyond five minutes and give it a try. As we went
13 over this afternoon, this document, in my view, is totally inade-
14 quate in that it does not provide enough information on detail of
15 the various alternatives, both in design and environmental
16 consequences, to allow a reasonable reader to make a judgment as
17 to which of the alternatives, if any, should be permitted. It was
18 my understanding that environmental impact statements should
19 provide enough information on alternatives so that a reasonable
20 person could judge for themselves or the Corps of Engineers or any
21 review agency, such as the Borough. So, in that regard, I view
22 this document as not even meeting the basic requirements of an
23 environmental impact statement. As we went over a little bit this
24 afternoon, one doesn't even need to go much further than the Table
25 of Contents to witness this. In the design section, that is

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1 Chapter 2, got seven alternatives listed, totally something on the
 2 order of 74 pages, or something like that. I may have had the
 3 numbers mixed up here a little bit. But the two-island proposal,
 4 the three-island "I" causeway, the three-island "T" causeway, and
 5 the one island, those causeway alternatives take up 67 pages out
 6 of the total of 74 or so. So, if we're given anywheres near a
 7 reasonable treatment of alternatives, we see that the two-island
 8 alternative, the preferred one, has 54 pages devoted to it. The
 9 three-island "I" causeway has 12 pages devoted to it. So, if
 10 there's a lot of overlap, why do you need an extra 12 pages when
 11 you're just changing the configuration here a little bit? But
 12 when you get down to something that's quite different, that is a
 13 breached causeway, we get a one-half of a page of text, one-half
 14 of a page of text. How can any reasonable soul rely on that
 15 minuscule amount of data to form an opinion? Since it's only two
 16 45-foot breaches, maybe, a half page in levity is adequate, because
 17 it's just a real shame. The no causeway alternative gets a page
 18 and a half. If you go to the environmental consequences of these
 19 actions, the causeway alternatives get 185 pages in one instance,
 20 32 pages in another. So, we have well over 200 pages devoted to
 21 environmental consequences of this various causeway configurations.
 22 You come to something that is different, let's say, at least to me
 23 is more different than it's an "I" or a "T" causeway, we suddenly
 24 drop back now six pages of information. So, rather than dwell
 25 totally on these little numbers, I think they're an indication

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1 of the available data that one can make a judgment with. And
2 the data, in my view, with things other than the causeway, that
3 is being pushed here, are very, very, sparse. I couldn't hardly
4 believe it when I read this document. I am flabbergasted at the
5 quality of this thing. Since time's real short, let me just turn
6 to some consideration of some marine mammal information which
7 didn't surprise me after we got into it as to it's adequacy
8 either. But, if one turns to page 4-184 and tries to grope with
9 the effects that may incur if oil were to contact the bowhead
10 whale, you find that one-half of the page is devoted to an ex-
11 planation or discussion of what may happen if oil encounters
12 baleen of a bowhead whale, and what effect this will have on the
13 animal's ability to feed, fouling of the baleen. There is, near
14 as I can make out, three lines added, apparently from the original
15 preliminary draft that we saw, three lines devoted to what will
16 happen if the animal swallows the oil. The effect of oil on the
17 baleen of this animal, as a direct threat to the animal, is much,
18 much less than the threat posed to ingestion of the oil. And
19 if you've ever looked inside the mouth of a bowhead whale, you
20 see that the baleen in this animal has it's characterized by very,
21 very long fibers and not the very short bristly fibers that I think
22 a lot of people here are familiar with on some other critters.

23 (HANDS BALEEN TO PANEL)

24 Just pass that around. That's some fibers from the baleen of a
25 bowhead whale that Craig George got from an animal taken at

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1 Kaktovik. The stuff ranges up to 18 inches in length. And I've
2 looked in enough bowhead whale stomachs now to know that it
3 regularly occurs in stomachs of these animals as they move the
4 tongue within the mouth to extract the little critters that are on
5 the inside of the baleen, the little food items, and they swallow
6 the food items. Many of these little baleen hairs break off,
7 they're not true hairs, but it's a common term applied to them,
8 break off and go down into the stomach. Appears to be a perfectly
9 normal thing. Just as you and I in combing our hair sometimes
10 lose hairs. When you get as old as I am, why more of them seem
11 to attach themselves to the comb. But nevertheless, their presence
12 in the stomach seems to be perfectly normal phenomenon. And
13 they're long, 6 inches, 8 inches, 10 inches and so on. If you
14 look in the animal's stomach a little bit more closely you find
15 that this animal resembles cattle a little bit in that it has a
16 four-chambered stomach. One of the chambers is very narrow in
17 that it's only about an inch and a half in diameter and about a
18 foot or so long. Very hard to believe that an animal that may
19 weigh 50 tons has a compartment in its stomach that is that big
20 in diameter and that long. That means that everything it eats
21 goes through that little channel. Just like everybody that wants
22 to get out of this room, if they're civilized, let's say, is
23 gonna go out through that little hallway. So, if you're bigger
24 than that hallway, you don't get out of this room. If one were to
25 put a filamentous material in the stomach on a regular basis, which

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1 nature does every day in these animals, then supply the animal
2 with a very narrow passage way in its gastrointestinal tract, no
3 problem, providing you do not introduce a sticky substance. If you
4 allow this animal to ingest oil, tar balls or whatever, you will
5 then allow the sticky substance to get into the animal's stomach
6 where it can then mat the hairs together, I think, and possibly
7 cause an obstruction. This document is just grossly inadequate in
8 so many cases that it scares me. One of the problems we've got
9 to deal with in working with folks who worry about whether oil
10 will hurt a bowhead whale, a common argument we get is: oil will
11 not stick to the animal's skin, therefore, it won't bother them.

12 (HANDS WHALE SKIN TO PANEL)

13 That little specimen I'm passing around there is a piece of skin
14 that came from a bowhead whale which shows the black smooth skin
15 that is, let's say, normal and then a rough erroded area which is
16 about 2 inches in diameter in that specimen right there. A bow-
17 head whale is essentially covered with hundreds of these things.
18 So, that anyone who thinks that bowhead whale skin is as smooth
19 as that table top, therefore, oil won't stick to it, is demon-
20 strating their ignorance of the skin of the bowhead whale. You
21 and I, all of us, have had the experience of eating gravy, salad
22 oil, or whatever, and as we're bringing that item to our mouth,
23 occasionally, we spill some. If it's on a smooth table top such
24 as this, it can be wiped up with a napkin, no problem. If you drop
25 the same two or three drops of salad oil or gravy onto your tie or

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1 your shirt or your wife's dress, you know exactly what happens to
2 it. It goes right into the fibers, and very difficult to get out.
3 That's because there's an increase in surface area. That is a
4 microhabitat, you might say. So, that when oil gets on the skin
5 of this animal, if it's skin was perfectly smooth like that table
6 top, it may not stick, I don't know. But these animals do not
7 have perfectly smooth skin. And I think that the oil that con-
8 tacts these animals will stick, much as the oil will stick to any
9 surface that has a lot of micro-relief. Just to further confuse
10 the issue, you might say, there's a whole bunch of photos here, but
11 just, maybe, take a look at the first one since time is run out.

12 (HANDS PICTURES TO PANEL)

13 There's a bowhead whale that's lying on it's side that the mayor's
14 father caught. The mayor's father caught that animal in 1980.
15 And all those little arrows, that's the abdomen. You're looking
16 at the abdomen of the animal. That animal has hundreds, hundreds
17 of these rough areas on it. The next photos underneath, which you
18 don't really need to look at, we'll send them to you, show that
19 they're very common on the head. That which you're looking at,
20 Colonel, is about half life-size. If that's as smooth as a table
21 top and oil won't stick to it, you know, that's not true. These
22 animals have rough skin. Your document here, unfortunately,
23 calls them naturally eroded areas, which is wrong. They're not
24 naturally eroded areas. That's a pathological mechanism. We
25 don't understand it yet. So, rather than to, maybe, drone on

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1 endlessly, we'll let someone else take a crack at it here, but to
2 summarize, this is a grossly inadequate document. It should be
3 sent back for immediate revision. If this thing is accepted by
4 the Corps of Engineers as an acceptable document, I don't think
5 that's right at all. I don't think that's right at all. Does
6 anyone have any questions about what I've said? I would be glad
7 to try to cope with them.

8 (NO ANSWER)

9 DR. ALBERT: Thank you.

10 LTC. SAAGE: Thank you, sir. Mr.
11 Ronald Nalikak has indicated a maybe. Sir, do you wish to
12 testify?

13 MR. NALIKAK: Sure.

14 TESTIMONY BY

15 RONALD NALIKAK

16 MR. NALIKAK: My name is Ron
17 Nalikak, I work for the North Slope Borough Environmental Protec-
18 tion Office. I agree with the doc. I wasn't even going to get
19 into this EIS 'cause I feel it's grossly inadequate myself, but
20 there is one thing I'm having a hard time understanding, is the
21 justification for building this causeway. As I was sitting here
22 I was taking notes and asking questions and stuff. The estimated
23 oil reserves are only 350 million barrels of recoverable oil in
24 Endicott, you know. And cost-wise, building the causeway, the
25 amount of recoverable oil in Endicott, you know, it seems stupid,

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1 I mean, to even consider building the causeway. I just can't see
2 why, you know, for only 350 million barrels of recoverable oil,
3 you want to build a 4.8 mile causeway just for 350 million
4 barrels. That's all I have to say. Thank you.

5 LTC SAAGE: Thank you, sir. Next.
6 Joann Loncar. Am I pronouncing that correctly?

7 MS. LONCAR: Right.

8 TESTIMONY BY

9 JOANN LONCAR

10 MS. LONCAR: My name is Joann
11 Loncar. I work for the North Slope Borough Environmental Protec-
12 tion Office. I agree with everyone so far that the document is in
13 need of revision, but I'd basically like to speak on the oil
14 spills and risk analysis. Seems that more time is spent in the
15 document saying how Sohio is going to combat the spills than the
16 effects the spills will have on the area or the shoreline or the
17 marine mammals or the fisheries. And I don't think it's up to the
18 Corps to say that there is not going to be any mitigative impact
19 or any impact because Sohio is going to clean up the spill before
20 it reaches any habitat areas. The risk or worse case analysis are
21 really poorly organized. We have about 20 of them for separate
22 oil spills or sediment deposition or coastal erosion, which is
23 not adequately addressed either. I think, when you put the
24 causeway in, the shoreline is going to be affected. And I think
25 that has to be addressed in the EIS. It will probably erode

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1 faster on the end shore side and perhaps more deposition will be
2 in the Sag Delta on the other side, but it's not addressed in the
3 EIS. I think that the worse case analysis have to be really
4 organized. They are very poor.

5 LTC SAAGE: Thank you very much.

6 James W. Cross --

7 TESTIMONY BY

8 JAMES W. CROSS

9 MR. CROSS: My name is Jim Cross
10 and I'm a consultant to the Borough. I'm president of Environ-
11 mental Services Limited, which is, as the name implies, an environ-
12 mental consulting firm. I'd like to make a few general comments
13 and then get into a couple specific areas which, I think, are
14 worth pursuing in terms of the assessments before us. Basically,
15 the project has a lot of merit, certainly in terms of the Borough's
16 perceptions in a need for the development of the area. There's
17 obviously a need for oil. And, I think, the goals that the
18 project presents are worthwhile and laudable. Yet, the approach
19 may need some revision, and, I think, that's where you have
20 received most of your comments so far. It relates to the session
21 that we had this afternoon. My specific area of interest in terms
22 of this project is to review the affects of the causeway or
23 various alternatives of the causeway on the near shore coastal
24 environment, and then try to evaluate what types of options might
25 be available to mitiagate that impact. I'd like to draw an illus-
tration, which I'm sure won't be very pleasing to the fellows from

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1 Sohio, but, I think it's a fair illustration in that if this
2 project were proposed off the east coast of the U. S., the design
3 really would not be able to present a causeway as an option. The
4 basic assumption that we're making there is that the land values
5 adjacent to areas along the east coast would be of such high value
6 that the effects of this structure, in terms of the change to the
7 littoral currents and, therefore, deposition and erosion, would
8 create such a change to the coastline that population would have
9 a hard time accepting it. Obviously, we're in a remote area and
10 some of those considerations are probably not valid here. Yet, I
11 think, they are more valid than the document has given considera-
12 tion to. I'm not going to get into the merits of the models and
13 all the planning that's gone into them. Just simply to say that
14 there are models and there are models, but they're all based on a
15 set of assumptions in the data set which goes into the development
16 of the model. This is a new frontier area in terms of developing
17 useful, numeric and physical models. And I know it's difficult to
18 take the limited data that's available and project into the future
19 the effects of structures such as this, but, I do think it's
20 reasonable to assume, on the basis of those structures which have
21 been constructed in the area that the physical changes to the
22 existing environment are going to be substantially greater than
23 models predict. A review of the data on the West Dock, I think,
24 is fairly conclusive in that area. I'm sure you're aware of that.
25 More specifically, looking at the various causeway options, it

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1 appears that a rather easy way to resolve the problem at this
2 point would be to discuss further the causeways and a breach of
3 those causeways or a change in the concept used to approach the
4 islands. When one does this, you wind up very quickly getting back
5 to cost, and, I think, that's where the questions came from
6 earlier this evening. What are the costs related to constructing
7 the causeway as is? What would be the cost of suitably large
8 breaches to allow passage of fish, migration of various other
9 marine mammals and the adequate transport of sediments? Basically,
10 what would be the coastal processes that would take place in the
11 area? When you get down to cost, I realize too that you're still
12 in a preliminary stage and you don't have a hard set of numbers,
13 but you have some basic guesses. It's going to cost so many
14 dollars a cubic yard to put gravel out in that environment, and
15 you have a typical cross-section, you have a footprint, you have
16 some guesstimate of where you're going. What would be the cost of
17 bridging a certain area? A definitive cost is not possible, but
18 a reasonable assumption is. I think, also you have to look at
19 the cost as it relates to the overall project. Would adding
20 another 1,000-foot breach, at two or three locations, materially
21 add to a \$2 million development cost? I think not. I think
22 that's something that is very much worthwhile pursuing. And I
23 know there are going to be some arguments among engineers as how
24 do you that, and all the other issues, but I really feel strongly
25 that there's probably not a significant cost increase. As a

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1 matter of fact, in a very brief analysis that we've conducted, it
2 appears that certain other options, using steel structures or
3 major breaches, building a bridge basically, may, in fact, be not
4 anymore costly. They may be less expensive. Now, that may be using
5 some technology which is not currently in place in the Arctic,
6 maybe pieces of it are. And, again, I'll draw your attention to
7 what one of the previous speakers discussed, and that was the two
8 structures that are now currently off the Oliktok Dock structure,
9 these are two, what we call, marine dolphins. In the rest of the
10 world they'd be used for breasting a ship. In this area they have
11 a dual purpose: one is to breast a ship, a barge, during off-
12 loading; they're also ice breaking dolphins that are protecting
13 that structure. It's conceivable a structure similar to this might
14 be useful in this instance. Maybe another set of alternatives
15 that could be evaluated would be some steel structure above the
16 ice, buried pipelines. Now, this would preclude the surface access
17 that you want during the open water season, or broken ice season.
18 Different set of alternatives, but, I think, those types of issues
19 need to be fully aired in this document. It's very difficult to
20 make a decision as to the suitability of the alternative proposed
21 when you have not presented another realistic alternative to match
22 it against. We think a greater degree of documentation should be
23 presented on your subsea pipelines. Now, I think, all of us agree
24 that this is the first offshore development. It's a near shore
25 project. In the very near future, certainly within the next ten

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1 years, there will be proposals to develop offshore fields that are
2 farther out than this one and present a different set of problems,
3 a different environment. Granted, it's not exactly the same as
4 this area, but eventually, subsea pipelines will have to be a part
5 and a major part, of the full development of the Prudhoe Bay area.
6 It seems to me that it's reasonable at this point to have a full
7 airing of that discussion. I guess, finally, the late and last
8 point, it is not really a major point, but you've heard som dis-
9 cussion this evening about the use of gravel. And possibly to
10 clarify that point, the current structure of offshore causeways
11 does not include a great deal of Slope protection. Now, there's
12 a lot of reasons for that. It's very costly, some of these
13 structures were built a long time ago before current designs were
14 available. So, there are various levels of sophistication.
15 Basically, most of those structures are maintained at this point
16 by simply adding gravel when it's lost by erosion. If one makes
17 some very simplistic assumptions at this point and looks at the
18 life cycle costs of that causeway system, 4.8 miles, so many
19 million yards to construct it, and then uses some reasonable
20 assumption over a period of time as to the quantities of gravel
21 necessary to maintain it, and using the numbers in your document,
22 it appears that the total life cycle cost in terms of cubic yards
23 of gravel, is something near 15 million yards. That is a signifi-
24 cant amount of gravel. Now, whether that is 30 percent or 20
25 percent of the total proven reserves abd what that number total

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1 proven reserves means, I think is open to question; but, it's a
 2 significant amount of gravel. It's going to come from the Sag
 3 Delta, and, I think, that's understood. There are implications to
 4 removing that much gravel from the Sag Delta, and having worked
 5 for a number of years in gravel issues on the Slope, those are
 6 very difficult issues. They're, maybe, not quite as straight
 7 forward as presented this evening. To sum up, I don't think any
 8 of these issues are of such magnitude that they cannot be resolved
 9 reasonably. And, I think the Borough's position is that they're
 10 very willing to work towards a solution, but that a greater degree
 11 of sophistication is required in this document so that reasonable
 12 decisions can be made. And, I believe, that when that type of
 13 data is provided, that reasonable people can sit down and work out
 14 some solutions. Thank you.

15 LTC SAAGE: Thank you very much.

16 Tom W. Barnes --

17 TESTIMONY BY

18 TOM W. BARNES

19 MR. BARNES: I'm Tom Barnes, and
 20 I'm with the North Slope Borough Planning Department. As stated
 21 before on a number of occasions this evening, the draft environ-
 22 mental statement is extremely inadequate and unacceptable for a
 23 number of reasons, among which, as stated before, does not
 24 adequately address most any of the alternatives that do not involve
 25 a causeway; does not adequately address the associated environmental

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1 impacts associated with other alternatives. And in my opinion, the
2 applicant has not shown by a preponderance of the evidence that
3 the solid filled causeway should be approved since there's no
4 adequate discussion of alternatives that is given the same amount
5 of detail as the applicant's proposed activity. And there wasn't
6 any associated cost information which a reviewer would attempt to
7 make an adequate decision based on whether or not the proposed
8 alternative was one that is, in fact, feasible and prudent. We
9 hear many times during the week the Alaska Oil and Gas Association
10 indicate that agencies that reivew such documents add years, at
11 least months, to a project because of reviews and unnecessary
12 conditions and stipulations. I believe that documents such as
13 this that are totally inadequate, puts, I think, a large part of
14 the blame back on the oil companies who put together a document
15 like this and submit it. It adds time to the review and the
16 approval of such a project. If the document was put together
17 adequately in the first place, and this is not, I believe that the
18 review time could be reduced considerably. Prudhoe Bay Water Flood
19 Project, if it showed anything, was that alternatives need to be
20 discussed and they need to be discussed early on. And, apparently,
21 the applicants in this case haven't learned that lesson, and I
22 think, that that should be made clear and this draft EIS should be
23 revised and alternatives be adequately discussed and given the
24 attention that they deserve. And finally, I believe that this
25 draft EIS sets a bad precedence. The West Dock extension caused

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1 a great deal of concern, comment and a lot of time went into the
 2 consideration of that project. We're now into what I consider to
 3 be a much more environmentally sensitive area, and the discussion
 4 of alternatives, I believe, much less than in the Prudhoe bay
 5 Water Flood extension. And I believe that revisions to the docu-
 6 ment are required, and if they are not done, I think, that's an
 7 extremely bad precedent for an environmental document to be put
 8 out by the Corps of Engineers and to be submitted by an applicant
 9 for this type of a project. Thank you.

10 LTC. SAAGE: Thank you. Nolen P.
 11 Solomen indicates a "maybe." Mr. Solomen --

12 TESTIMONY BY
 13 NOLEN P. SOLOMEN

14 MR. SOLOMEN: My name is Nolen
 15 Solomen, and I'm from Kaktovik, Alaska, and I live about 90 miles
 16 east of the place where you're talking about. And I don't have
 17 anything with me right now, but for the record I want to say I
 18 subsist on that area, and that's my main concern because our food
 19 comes in that area, our fish and all birds, and I don't see why
 20 you guys want to build a causeway there because our fish migrates
 21 from there. And every year now our subsistence fishing is going
 22 down. For one reason, there's too many activists there. Caribou
 23 migrate through there. There's an eastern central herd we hunt
 24 from there, will be disturbed by this project you're gonna do.
 25 Birds migrate through there. If something happened and the oil



1 spilled there, I don't think we'll have any birds. Right now
 2 the geese are going down for some reason, and if there's oil spill
 3 of any type in that area, that will cut everything down what we
 4 eat on the table. I think somehow, there should be some kind of
 5 an alternative, someday, that you won't hurt any wildlife or some
 6 sort for our costs. Right now, I don't have anything, right now,
 7 but I'd like to make a written comment that I will send in the
 8 near future. I didn't go through your packet. I just got that
 9 packet on the way from Barter Island. And there's a lot of things
 10 in there I don't understand because there's a lot of scientific
 11 words in there that we don't understand. Thank you.

12 LTC. SAAGE: Thank you sir. That's
 13 everyone who indicated on the cards their desire to testify. Is
 14 there anyone else at this point who would like to enter something
 15 in a testimony? Could you please state your name?

16 TESTIMONY BY
 17 MARTHA I. IPALOOK

18 MS. IPALOOK: My name is Martha
 19 Ipalook. I work for the North Slope Borough EPO Department,
 20 Environmental Protection Office, and I'm a newcomer to this depart
 21 ment and I read, you know, different places in the DEIS there.
 22 And the sea ice, I was concerned about that. You know, currents
 23 in that area, I heard no one state earlier, are very strong. And
 24 you say in your book that the currents won't be affected, impacted
 25 very much. Where did you get that knowledge from? And plus the

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1 fish, the water temperature in that area is going to be warmer.
2 How's it going to affect the ice that comes out of there? Plus,
3 that causeway is going to be built between the Sag Channel and
4 the fork, and fish go up into those two channels there. How are
5 they going to go up that way if they follow the current which is
6 going to be disrupted because of the causeway? Will they go on,
7 or will they not go up? Which way are they going to go? I
8 couldn't find anything in there that gave me the answer. And ask
9 these people that I work with. I ask them questions and they tell
10 me that they can't give me an answer because it's just no there.
11 So, as a newcomer, I'm not getting very much information out of
12 this book that's been put out by you. It's a big book too, and
13 very little is stated about an alternative for a VSM's in the
14 water. It states in here on the causeway but not in the sea
15 itself. That's about all I have to say.

16 LTC. SAAGE: Thank you very much.

17 One more? Michael I. Jeffrey --

18 TESTIMONY BY

19 MICHAEL I JEFFREY

20 MR. JEFFREY: I haven't had a chance
21 to read the Environmental Impact Statement because the job I have
22 now doesn't give me that kind of time. And, I think, that's kind
23 of what I want to address my comment to. At the time of the Water
24 Flood Study EIS, I was heavily involved in making comments on that
25 document, and I submitted some very lengthy ones on behalf of villages

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1 on the North Slope. At that time I was an attorney here in town
2 working with the Alaska Legal Services. And one thing that the
3 Corps did at that time was to prepare a summary of the Environ-
4 mental Impact Statement, which not only summarized very clearly
5 the project and the alternatives, but did it in both Inupiat and
6 English. And I thought that was a tremendous effort to make,
7 rarely matched by any other agency. And it made possible for
8 people who, include me at this point, who because of other job
9 commitments, simply don't have the time to plow through EIS, and
10 imparticular for the village people who are impacted by the pro-
11 jects to understand the basic project and the alternatives. And
12 it's disappointing to hear that this kind of thing was not done
13 again by the Corps, the same agency who did it before. I urge you
14 to consider publishing such summary with the final EIS even though
15 it would not be helpful in people making comments on the EIS, at
16 least it would be helpful in understanding the project. From the
17 reading that I did at that time and also the many public hearings
18 that I attended at that time, I have a feeling about the environ-
19 ment and the feelings of people who subsist on it, which leads me
20 to strongly support the comments that I've heard here tonight. And
21 imparticular, strongly support the idea that alternatives involving
22 breaches in the causeway should be strongly considered and very
23 carefully brought out in the Environmental Impact Statement. It's
24 very important to allow the fish, allow the nutrients to have a
25 free flow along the coast. I was amazed to see in reports that

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1 fish tagged at Prudhoe Bay have been caught at Kaktovik. I mean,
2 that's fact. The Alaska Fish and Game has those records and it's
3 been brought out in other EIS's. In other words, the impact of
4 restricting the free migration of the fish along the coast can be
5 felt at great distances, and it's important to the people living
6 in the villages along the coast that their subsistence oppor-
7 tunities be maintained. Another important aspect is the
8 temperatures of the water, which I remember in the studies dealing
9 with the West Dock had been documented how on different sides of
10 the dock the temperatures were changing and that this had environ-
11 mental impacts. I agree with the previous speakers that this
12 project being right in a river Delta, is in a more sensitive area
13 than the West Dock is, and, therefore, demands further and careful
14 treatment of these alternatives. I also support the previous
15 speakers talking about the impact of extensive gravel removal from
16 the Delta and the affect that that would have on fish and other
17 wildlife. So, I guess, what it boils down to is that I, on the
18 one hand, I think it's commendable that of the hearings that the
19 Corps is having that, at least, one of these was here in Barrow.
20 I know that years back, some of the agencies were content to have
21 them only in Anchorage, and I commend the Corps for coming up to
22 Barrow. I wish they could go out to the villages and hear the
23 people there. But, I would urge full and careful examination of
24 the alternatives dealing with breaches in the causeway or bridges,
25 those kinds of things, and also very full treatment of the effects

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1 of gravel removal on the Delta. Thank you.

2 LTC SAAGE: Thank you very much.

3 Is there anyone else who would like to enter testimony? In con-
 4 clusion I'd really like to thank all of you for coming out this
 5 evening and putting out the time and the effort that I know it
 6 takes to take yourselves away from your personal concerns and your
 7 family to devote this kind of energy for demonstrating interest in
 8 your community and in the state, and I personally applaude you for
 9 that. The comments that we've heard tonight, I think, are going
 10 to be invaluable to us in our consideration of the Environmental
 11 Impact Statement. I would like to point out that we do have a
 12 series of meetings being held in conjunction with this draft. The
 13 first meeting was held last evening in Nuiqsut and, of course, we
 14 have this meeting here tonight, and tomorrow evening at 7 p.m.
 15 there is another meeting at Kaktovik, and then on the fifth of
 16 March the last meeting that we're planning for Anchorage. So, if
 17 any of you happen to be in any of those places on those dates,
 18 you're welcome to testify once again. Some of us will be hanging
 19 around for a little while after the formal completion of the
 20 hearing, and if at that time you wish to ask some questions or
 21 clarification or just provide a comment that you didn't wish to
 22 enter into testimony, we'd be delighted to talk to you. Again,
 23 thank you very much. Sir --

24 MR. ALBERT: Colonel, I've got a
 25 question. In view of the testimony that you've gotten, what's the

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1 likelihood of this document being sent back for the review
2 revising that it so richly deserves?

3 LTC SAAGE: I'm not going to answer
4 that right now because I don't feel, frankly, technically quali-
5 fied to do it all by myself. What we will do is synthesize these
6 comments and I and Colonel Saling and the key people in the
7 regulatory staff will go over them, and if we feel there is
8 sufficient basis for requesting a revised draft, then we'll do it.
9 If not, we'll proceed to final, but at this point, I don't feel I
10 can actually answer that.

11 MR. GEORGE: I have a very specific
12 question. Will the verbal testimony be weighed with the written
13 testimony? Will you superimpose them on each other as we submit
14 written comments? I'm just afraid that if I wasn't very explicit
15 in my verbal comments, that the written comments that follow may
16 not be taken with the same weight.

17 LTC SAAGE: I don't understand the
18 question. Are you asking if both your oral testimony and the
19 written comments will both appear in the record?

20 MR. GEORGE: Yes.

21 LTC SAAGE: Yes.

22 MR. GEORGE: Okay, that's essentially it.

23 LTC SAAGE: Yes, ma'am.

24 MS. LONCAR: Is there any chance of
25 getting an extension on the written comment period?

LTC SAAGE: You may submit a request

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1 for an extension, and if you have compelling reasons, it's
2 certainly possible that an extension could be granted. At this
3 point though, our intent is to close the comment period on the
4 19th of March.

5 MR. ALBERT: One other question,
6 Colonel, that struck me as real interesting and that is the fellow
7 from Sohio who made the presentation. I got the impression that
8 the company is proceeding very rapidly in its design studies and
9 probably even as we're here now, getting through the cost analysis
10 of their preferred alternative. Is this normal procedure to go
11 way down the road before the Environmental Impact Statement has
12 even been evaluated? It gives me the impression that one is
13 clearly anticipating receipt of the permit. That is the Corps, or
14 someone, maybe, going to be asked when it comes time for the
15 permit that if we, the applicant, have spent our resources on this
16 one alternative and we have it all worked out, you mean you're not
17 going to give us a permit? Might it not come down to something
18 like that?

19 LTC SAAGE: I think there's two
20 questions there; one, is concurrent application for permit and
21 design standard procedure in industry; and two, if the answer to
22 the first question is yes, does that apply pressure to the Corps
23 to grant the permit as requested?

24 MR. ALBERT: That's a real good
25 restatement of my question.

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1 LTC SAAGE: The answer to the first
2 question is that it is my understanding that that is a typical
3 approach for industry. That doing it otherwise stretches out the
4 total preconstruction period to the point that the costs become
5 very high. As a contrast, the Corps of Engineers does do that.
6 We do it step by step. Of course, we have an average time in the
7 Corps of initiation feasibility study to initiation of construction
8 of 26 years, and most people in industry just can't afford the
9 cost of that. The answer to your second question is, in most
10 cases, no. And the reason I give you a qualified answer is, I
11 suppose, conceivably there could be a project whose value to the
12 national welfare is so overwhelming that delay of that project
13 for consideration of perhaps more environmentally sound ways of
14 doing it, might constitute an unacceptable delay from the perspec-
15 tive of what's in the best public interest, but I say that's hypo-
16 thetically possible. I would say in general, most cases, no, we
17 would not be influenced by them.

18 MR. ALBERT: Thank you.

19 LTC SAAGE: Sir --

20 MR. NALIKAK: Along that line, you
21 know, of questioning. The effects of the things that are happening
22 in Iran and Iraq, you know, would the decision to give the permits,
23 will those be affected by those things that are happening along
24 the other side of the world? Because, you know, we're part of the
25 United States and Iran and Iraq are, you know, they're going at it

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1 and they're thinking of closing that passage there so that, you
2 know, it would affect the importation of foreign oil.

3 LTC SAAGE: I suppose it's possible,
4 but we would not be the ones, the Corps would not be the ones to
5 make that kind of determination as to whether national priorities
6 are changed. That would be done by the President and the Congress
7 and with, I'm sure, deliberations and communications from you,
8 their constituents. If they felt that as a result of some action
9 elsewhere in the world our priorities had changed as far as the
10 urgency of developing domestic forces of oil, then, I suppose, that
11 change in priorities would be communicated to us.

12 MR. NALIKAK: My concern is that
13 you won't be able to change (INDISCERNIBLE) to the President and
14 the Congress, and you're saying to the people that are subsisting
15 here, you know, the heck with them.

16 LTC SAAGE: Well, sir, for the
17 President and the Congress to adequately communicate that to us,
18 they'd have to do it legislatively. They'd have to change the law.

19 MR. NALIKAK: Right, and we only
20 have one representative in the House and two in the Senate, and,
21 you know, it's kind of a moot situation.

22 LTC SAAGE: I don't know how to
23 respond to that. We have to abide by the law. We don't have any
24 choice here.

25 MR. NALIKAK: And what does 8,000

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1 Eskimos, do they have any say? You know, that's the crux of the
2 situation.

3 LTC SAAGE: I'd like to assume
4 that's a rhetorical question.

5 I'd like to go ahead and close the
6 formal part of this out. If you'd like to continue this discus-
7 sion, I'd be delighted to do it. Again, thank you all very much.

8 (OFF RECORD)

9 * * * END OF PROCEEDINGS * * *

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