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ORIGINAL  
UNITED STATES  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

IN THE MATTER OF:  
KERR-McGEE CHEMICAL CORPORATION  
(Kress Creek Decontamination)

DOCKET NO: 40-2061 SC  
ASLBP No.  
84-502-01-SC

DEPOSITION OF JOHN THORSEN

LOCATION: WASHINGTON, D. C.

PAGES: 1 - 33

DATE: WEDNESDAY, JANUARY 22, 1986

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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In the Matter of: :

KERR-McGEE CHEMICAL CORPORATION : DOCKET NO. 40-2061

(Kress Creek Decontamination) : ASLBP No. 84-502-01-SC

- - - - - :

Washington, D.C.

Wednesday, January 22, 1936

Deposition of

JOHN W. THORSEN, P.E.

the deponent, called for examination by counsel for the  
Nuclear Regulatory Commission, pursuant to notice, in the  
offices of Covington & Burling, Conference Room 1314, 1201  
Pennsylvania Avenue, Washington, D.C. beginning at 10:20  
o'clock a.m., before Mary C. Simons, a Notary Public in and  
for the District of Columbia, when were present on behalf  
of the respective parties:

Marysimons 1

On Behalf of the NRC:

2

STEPHEN H. LEWIS, ESQ.

3

Deputy Assistant Chief Hearing Counsel

4

Office of the Executive Legal Director

5

United States Nuclear Regulatory Commission

6

Washington, D.C. 20555

7

On Behalf of Kerr-McGee Chemical Corporation:

8

PETER J. NICKLES, ESQ.

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Covington &amp; Burling

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1201 Pennsylvania Avenue

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Washington, D. C.

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C O N T E N T SWITNESSEXAMINATION

John W. Thorsen

by Mr. Lewis

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## P R O C E E D I N G S

2 Whereupon,

3 JOHN W. THORSEN, P.E.

4 was called for examination by counsel for the NRC and  
5 having been first duly sworn by the Notary Public, was  
6 examined and testified as follows:

## 7 EXAMINATION

8 BY MR. LEWIS:

9 Q Would you please state your name for the record.

10 A John Thorsen.

11 Q And by whom are you employed?

12 A Roy F. Weston, Incorporated.

13 Q What is the address of that?

14 A 100 Corporate North, Suite 101, Bannockburn,  
15 Illinois 60015.

16 MR. LEWIS: Let me briefly describe. I am Stephen  
17 Lewis, counsel for the NRC Staff in the Kress Creek  
18 proceeding, and I will be asking you a series of questions  
19 regarding your participation in this proceeding.

20 If you don't understand any question I ask you,  
21 just bring that to my attention and I will try to clarify  
22 the question. If you don't bring that to my attention, I  
23 will assume you understand and expect an answer.

24 BY MR. LEWIS: (Resuming.)

25 Q Mr. Thorsen, are you intending to be a witness in

arysimons 1 the Kress Creek proceeding?

2 A Yes.

3 Q On what subject are you intending to testify?

4 A The development of a cost estimate for Kerr-McGee  
5 based on the backup position that an order may be issued to  
6 Kerr-McGee to remove thorium residual materials from Kress  
7 Creek to the <sup>"5/15"</sup>~~515~~ limits.

8 Q Were you provided by Kerr-McGee with a document,  
9 which I will describe as the show-cause order in this  
10 proceeding?

11 A Yes, we were.

12 Q Is that the basis for your knowledge as to what  
13 you describe as the 515 criterion?

14 A Yes.

15 Q Were you also provided by Kerr-McGee with a copy  
16 of a report conducted for the staff by Oak Ridge Associated  
17 Universities?

18 A Yes.

19 Q Were you provided a copy of a report conducted for  
20 the staff by Argonne National Laboratory, particularly Dr.  
21 Frigerio?

22 A I am not familiar with that report.

23 Q Were you provided by Kerr-McGee copies of any  
24 studies they had done regarding the costs of a clean-up of  
25 radiological contamination in and around the creek and

narysimons 1 river?

2 A We were not.

3 Q Is your testimony going to be limited to the  
4 economic costs associated with a clean-up of the  
5 radiological contamination?

6 A It is.

7 Q Will you be testifying at all as to radiological  
8 hazards?

9 A No.

10 Q Will you be testifying at all as to environmental  
11 impacts?

12 A No.

13 Q Were you provided by Kerr-McGee or some other  
14 person who is a consultant to Kerr-McGee with a volume of  
15 material, soil and other material, that you should assume  
16 would have to be removed from the area of the creek and  
17 river?

18 A Yes.

19 Q Who provided that information to you?

20 A Kerr-McGee.

21 Q Do you know who derived those figures?

22 A I have been told that they were derived by Dr.  
23 Auxier.

24 Q Is it your understanding that you will be  
25 testifying as part of a witness panel with Dr. Auxier and

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Mr. Taylor?

2 A No, it is not.

3 Q I see. Do you know Mr. Thomas Taylor?

4 A Yes, I do.

5 Q Is he an associate of yours at Weston?

6 A He is.

7 Q Are you and Mr. Taylor working jointly on these  
8 cost estimates of removal?

9 A Yes.

10 Q Is there some division of responsibility between  
11 you and Mr. Taylor regarding this work?

12 A Yes, there is.

13 Q Could you describe to me what that is?

14 A The basic differential <sup>can be seen</sup> ~~is~~ in describing Mr.

15 Taylor's role. Mr. Taylor provided the construction cost  
16 estimate primarily for material cost, once given the  
17 estimate of the quantities, the labor estimate and the  
18 equipment estimate.

19 Q Construction of what?

20 A Construction meaning removal in this case. There  
21 would also be construction potentially given the concept  
22 derived, again assuming removal will take place to the 515  
23 limit, of diversion control, or diversion structures and  
24 then the excavation and removal of materials.

25 Q All right. Mr. Taylor was concentrating on the

marysimons 1 construction costs associated with activities necessary for  
2 the removal; is that what I understand?

3 A Yes.

4 Q And the equipment and the labor associated with  
5 that activity?

6 A That is correct.

7 Q All right. Now then what was your area of focus?

8 A We developed the conceptual approach to derive the  
9 estimate and the associated costs.

10 Q Associated costs of the conceptual approach? I am  
11 not sure I understand.

12 A Of the construction, of the final design,  
13 construction management, environmental monitoring and items  
14 of that nature.

15 Q Did your work assignment include any task  
16 regarding the way in which the material that was excavated  
17 and removed would be stored?

18 Let me ask you first of all, were you asked to  
19 assume that it would be placed on the West Chicago  
20 Railroad's facility site?

21 A No.

22 Q What were you told to assume as to where the  
23 excavated material would be placed?

24 A We were not given any information regarding the  
25 placement of material. Our cost estimate included delivery

arysimons 1 to the West Chicago facility.

2 Q Delivery to by truck?

3 A By truck.

4 Q And I assume once the trucks got there, it also  
5 included placement, placement of the material, off-loading  
6 of the material from the trucks onto that site?

7 A Off-loading, that is correct.

8 Q It did not go any further, such as any  
9 considerations of how the material would be placed or  
10 stored?

11 A No, it did not.

12 Q In doing this work you were provided by Kerr-McGee  
13 an estimate of a volume of material; is that correct?

14 A Yes.

15 Q Also, did that estimate include information on the  
16 location of the material?

17 A No, it did not.

18 Q Did it include information on the depth to which  
19 the material would have to be removed at various locations?

20 A No.

21 Q If I understand what you have testified, your  
22 estimate of the cost was based solely on a figure of the  
23 volume of material that would have to be removed?

24 A No. It is based on volume and an approach to  
25 remove that volume and the <sup>appurtenant</sup> ~~pertinent~~ needs in implementing

marysimons 1 a project of this nature.

2 Q I see. Could that kind of an estimate be derived  
3 without knowing what the spacial location of the  
4 radiologically contaminated material is?

5 A Yes, at the conceptual level which we have done.  
6 This is not a construction cost estimate. This is a  
7 conceptual cost estimate.

8 Q That is regarding the work you did. Is Mr.  
9 Taylor's work also based on the same conceptual approach?

10 A It is.

11 Q I see. Have you visited the Kress Creek area?

12 A Yes.

13 Q Did you walk along the creek for some of its  
14 length?

15 A I did.

16 Q When you were provided the information on the  
17 volume of material, were you asked to assume anything  
18 regarding the geographic location where some removal  
19 activities or construction activities associated with  
20 removal would have to be begin and where it would have to  
21 end? I am particularly speaking in terms of the reach of  
22 the creek that would be involved. Were you asked to assume  
23 anything in that regard?

24 A Could you read that back?

25 (The pending question was read by the reporter.)

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THE WITNESS: Yes, we were given the ~~frame~~ report and asked to utilize the areas studied in the frame report just as I guess an aside or an add-on. There was no information from the outfall at the very upper reach because there was no permission given to survey that area.

So precisely from the outfall to the down gradient portion in the west branch of the DuPage River along the west bank, which was approximately 200 yards south of the confluence.

10 BY MR. LEWIS: (Resuming.)

11 Q So the area that you focused on was the area from  
12 the most upriver sampling location of Oak Ridge Associated  
13 Universities to the most downriver sampling location, am I  
14 correct?

15 A Approximately, yes.

16 Q Were you asked to assume anything with respect to  
17 removal of sediment in the creek bottom?

18 A Yes.

19 Q And what were you asked to assume?

20 A We were asked -- we assumed, let me rephrase that,  
21 we assumed we would remove sediment from the stream bed.

22 Q Did you also assume that you would have to remove  
23 material from the banks?

24 A We did.

25 Q Did you have any assumption as to how far back

arysimons 1 from the creek river banks you would have to remove  
2 material?

3 A The information was not specific enough for the  
4 cost estimate, but generally we used a <sup>Frame</sup>~~Frame~~ report of 25 *QW*  
5 yards of meters, whichever was in the frame report.

6 Q Focusing on the question of sediment removal, did  
7 your conceptual approach indicate the necessity of  
8 dewatering a portion of the creek and river in order to  
9 remove the sediment?

10 A The conceptual approach that we used to develop a  
11 cost estimate did include dewatering of stream segments.

12 Q At what point upstream on the creek would the  
13 dewatering begin?

14 A Essentially at the EJ&E Railroad culvert.

15 Q At the point where the railroad crosses the creek?

16 A That is correct.

17 Q And did you have an assumption as to how this  
18 would be done? Would some kind of a dam be constructed?

19 A Basically there would be a water retention  
20 structure creating a dam, as you have stated. That could  
21 be one method to do it, to provide for some storage capacity *QW*  
22 so that when a particular reach is being dewatered there is  
23 a certain time of storage and time of concentration of  
24 waters behind the dam so that work in the stream bed could  
25 be terminated and stabilized before the water would need to

marysimons 1 be released.

2 Q Under this conceptual approach would the  
3 dewatering be done in segments?

4 A It would.

5 Q How many segments would be involved?

6 A Five.

7 Q Would there have to be any diversion structure or  
8 channel constructed as part of the dewatering?

9 A Yes, there would.

10 Q And if I conceptualize that correctly, would that  
11 be a channel that would be constructed from the point of  
12 impoundment down below the lowest downriver point in the  
13 dewatering operation?

14 A By segments, yes.

15 (Pause.)

16 BY MR. LEWIS: (Resuming.)

17 Q Would there be any permanent structures associated  
18 with the diversion channels that would be utilized as you  
19 were dewatering various segments?

20 A Possibly.

21 Q Would these be some culverts of some type?

22 A It would be a secondary culvert beneath the EJ&E  
23 Railroad that would be used as a overflow spillway.

24 Q Would that be the only location at which some kind  
25 of permanent structure would be required?

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A I would like to ask you to clarify, please.

2 Permanent meaning something that would remain immemorial,  
3 or permanent as in a structure that is already there that  
4 would be utilized during the time of the cleanup?

5 Q I am using it to find out whether or not any of  
6 the structures associated with the diversion channels would  
7 be left there after the need for the diversion was  
8 completed.

9 A No, not in the approach that we utilized.

10 Q In other words, even the culvert that you just  
11 described to me associated with the embankment at the  
12 railroad would be removed after the diversion that it was  
13 required for had taken place?

14 A No. The structures that currently exist will  
15 remain. Any structures that are placed for the purposes of  
16 diversion, dewatering and potential removal of thorium  
17 residuals, if ordered to do so, would be removed  
18 subsequently.

19 Q In other words, as I understand it, there is some  
20 type of a culvert that exists at the railroad embankment,  
21 and that is what is going to be utilized in part?

22 A In part.

23 Q I see.

24 A Based on the approach that we utilized.

25 Q As you did each segment under this conceptual

marysimons 1 approach, would all of the work on that segment be done,  
2 that is to say, would it include excavation as far back  
3 from the creek for that reach of the creek as is going to  
4 to be done?

5 A Yes. Each segment would be completed before the  
6 follow-on segment was started. Is that the basis of your  
7 question?

8 Q Yes. What attempt would be made under this  
9 conceptual approach to return the creek and river in the  
10 areas excavated to their present configuration?

11 A That was a basic assumption in the report. It was  
12 an assumption that led us to the segmenting approach. The  
13 diversion channels would be backfilled, and the material  
14 used for the haul road, crushed gravel, would be placed  
15 into the stream bed to try and return the stream to its  
16 original course and with some of its rubble bottom  
17 formation.

18 Q Did you in developing the conceptual approach  
19 observe the present makeup of the sediment in the river of  
20 the type of material that forms the channel of the river?

21 A I did.

22 Q Did you do any sampling of that material to  
23 determine what its composition is?

24 A We did not. From an environmental perspective it  
25 was done by Dr. Salamon. From a chemical or radiological,

arysimons 1 we did not.

2 Q Did anybody associated with you or that you are  
3 aware of do any sampling of the sediment or bank soil in  
4 order to determine what its composition was for purposes of  
5 determining what type of material should be used for  
6 backfill?

7 A No.

8 Q What assumptions did you use as to the source of  
9 the backfill material?

10 A That it would be locally available.

11 Q In observing the creek and the river did you find  
12 the channel that exists to be well defined? Were you able  
13 to determine where the banks were located and were they  
14 clearly defined?

15 A In the areas I observed they were clearly defined.

16 Q In the area of Gunness Lake -- are you familiar  
17 with the area known as Gunness Lake?

18 A I am.

19 Q Would Gunness Lake be one of the segments of  
20 dewatering?

21 A It would.

22 Q Did you assume that excavation of that area, the  
23 Gunness Lake area would require the building of some kind  
24 of an access road for trucks and other vehicles to access  
25 the creek?

Marysimons 1

A We did.

2 Q You assumed that, I would gather, for all of the  
3 work, including the Gunness Lake area?

4 A That is correct.

5 Q In the areas that you assumed would have to be  
6 excavated along the creek banks, did you have occasion to  
7 observe what type of use those areas are currently in?

8 A Use can have many connotations. Land-use planning  
9 denotes that land is set aside for a certain purpose, such  
10 as a park or a forest preserve, as opposed to utilization,  
11 as in how it is currently being used.

12 So if you could differentiate between those two, I  
13 could better answer the question.

14 Q I can ask it in two segments.

15 Did you have occasion to observe what the present  
16 uses are of the area that would have to be excavated on the  
17 banks?

18 A Yes.

19 Q Did some of those areas appear to be backyards of  
20 residences?

21 A Yes.

22 Q Did any of those areas appear to include gardens  
23 associated with residences, home gardens?

24 A I was unable to determine from visual observation,  
25 I but based on what has been reported to me and from the

marysimons 1 frame report, it is my understanding that there may have  
2 been.

3 Q Did any of the areas that you assumed would have  
4 to be excavated have any structures presently on them?

5 A Yes.

6 Q What types of structures?

7 Q Sheds.

8 Q Sheds associated with private residences?

9 A Yes.

10 Q Any other?

11 A No.

12 Q Were any of the areas that you assumed would have  
13 to be excavated appear to be commercial property?

14 A No.

15 Q Were any of the areas which would have to be  
16 excavated areas which are currently in forest preserve  
17 status?

18 A We are looking at it from two different  
19 perspectives. We were given a volumetric estimate to use  
20 and an approximate distance away from the creek. Assuming  
21 that part of that distance away from the creek was in the  
22 forest preserve area, the answer would be yes.

23 Q Were any of the areas that would have to be  
24 excavated, to your knowledge, in areas where there are  
25 currently used parks?

marysimons 1           A     There is a park that Kress Creek transects. So I  
2 would have to say yes.

3           Q     As part of your conceptual approach did you assume  
4 that various access and haul roads would have to be  
5 constructed?

6           A     Yes.

7           Q     Would this be one road that would, or at least one  
8 road on each side of the creek and river bed for the entire  
9 distance of the work?

10          A     It could be.

11          Q     You made no specific assumption as to whether it  
12 would require more than one road?

13          A     In the approach we costed we use one haul road per  
14 segment.

15          Q     Would that one haul road provide access to both  
16 sides of the creek bed?

17          A     It would.

18          Q     As you went downriver to successive segments,  
19 would a new haul road, was the assumption that a new haul  
20 road would be used?

21          A     Yes.

22          Q     Did you make any assumption as to restoration of  
23 the area of the previously used haul road?

24          A     The assumption was that it would be reclaimed.

25          Q     Would that be as part of a more general

marysimons 1 reclamation of the area of the banks after excavation?

2 A Yes.

3 Q Did your estimates also, your cost estimates  
4 include assumptions as to the type of excavating equipment  
5 that would be required?

6 A It did.

7 Q Would this type of work in your approach have to  
8 be conducted only at certain times of the year?

9 A Yes.

10 Q What are those times of the year?

11 A What we commonly refer to as the construction  
12 season and sometime, depending on precipitation, beginning  
13 in May or June and terminating in October and November and  
14 possibly even December.

15 Q How long a period of time did you assume would be  
16 required for the entire project?

17 A With the assumptions that it would be implemented  
18 and that it would be excavated to the 515 limits and  
19 including time for permitting and final design, six years.

20 Q You have mentioned several times in response to  
21 questions that your estimates were done assuming that  
22 excavation decontamination was required down to the 515  
23 limits; is that correct?

24 Q Were you asked to make any alternative assumptions  
25 and to do a cost estimate based on those?

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A No.

2 Q You have described the work you have done as a  
3 conceptual approach. If Kerr-McGee were to ask you, the  
4 consulting firm that you work for, to make a cost estimate  
5 of actual work to carry out this project, can you give me a  
6 general idea as to how much more detailed the plan would  
7 have to be?

8 A That is a very broad question. "How much more"  
9 detailed is a very qualitative answer and is very hard to  
10 quantitate based on that. If you can provide more  
11 specifics, I can tell you what our cost estimate was to do  
12 the final design, which is what would be needed.

13 Q Start out by telling me what your cost -- in other  
14 words, you derived a cost estimate for doing the final  
15 design, for drawing up the final design, is that what you  
16 mean?

17 A That is a part of the work remaining to be done if  
18 it is required.

19 Q What was that cost estimate?

20 A \$443,000 and one year in time.

21 Q That was one component of the cost estimate that  
22 you did?

23 A Yes.

24 Q Was another component of the cost estimate that  
25 you did an assumption as to -- not an assumption, but an

marysimons 1 estimate as to the cost that would be involved in the  
2 actual excavation activity and the removal activity?

3 A Yes.

4 Q Under your conceptual approach would I be correct  
5 in stating that you gave a cost figure for the development  
6 of a final design and you also gave a cost figure on a  
7 conceptual basis for undertaking the entire project?

8 A I would restate it a little. We gave a conceptual  
9 cost estimate for undertaking the entire project, which  
10 included final design.

11 Let me get into some engineering terminology to  
12 put it in a little bit of perspective. A conceptual cost  
13 estimate has bounds of confidence of minus 15 and plus 25.  
14 A construction cost estimate has bounds of minus 5 plus 15.

15 Q A construction cost estimate has a narrower band?

16 A It is done after final design when you have all of  
17 your drawings, all of your specifications and all of your  
18 bidding documents developed.

19 Q Let me see if I understand that. Once you have  
20 all of your final documents, then the range within which  
21 you have confidence about the construction cost estimate is  
22 more precise than the range in which you now have  
23 confidence about the conceptual cost estimate?

24 A Yes. In addition to that, we have not costed, as  
25 we have mentioned earlier, the disposal of the materials

narysimons 1 nor the cost in easements or rights-of-way to properties  
2 which we consider to be both significant items.

3 Q What do you intend to testify as to that?

4 A We do not. That was not within the scope of our  
5 work.

6 Q In other words, you intend to state that those are  
7 other factors that have not been considered ---

8 A That is correct.

9 Q --- but that do have a cost associated with them?

10 A That is correct.

11 Q Let me see if I remember. We were speaking in  
12 terms of easements and final placement and there was one  
13 other item. Do you remember what it was?

14 A Those were the two, easements or rights-of-way,  
15 access to property essentially and disposal.

16 Q Did you assume that there would have to be any  
17 particular cautions or procedures employed for dust  
18 control?

19 A It was considered, but not specifically costed.

20 Q Would the haul roads that you would be using have  
21 some kind of a gravel base that would be put on them?

22 A Yes.

23 Q Can you tell me what the number of trucks, and  
24 maybe it would be in terms of truck trips, I am not sure,  
25 that would be assumed to be involved in this project?

marysimons 1

A No.

2 Q That was not a figure that was specifically  
3 included in the estimate?

4 A Yes, it was.

5 Q Would Mr. Taylor know that?

6 A That is correct.

7 Q I would like to go back to this business about  
8 bands of confidence as I call them for a conceptual cost  
9 estimate. Could you tell me again what the bands of  
10 confidence are you testified to that are associated with  
11 the conceptual cost estimate?

12 A Minus 15 to plus 25.

13 Q Percent?

14 A Percent.

15 Q Now in addition, you said that your estimates did  
16 not include any cost for easements or final placement. So  
17 whatever those would be would have to be separately derived  
18 or separately estimated?

19 A That is correct.

20 Q Would one of the items of information that an  
21 engineering consulting group would need to convert a  
22 conceptual design to a final design be the precise  
23 locations of the soil and other material to be excavated  
24 and removed?

25 A Certainly more accurate than we utilized in this

marysimons 1 estimate, yes, but precise I would say no.

2 Q Would it also include a more specific estimate as  
3 to the depth to which the soil would have to be excavated?

4 A I guess that is part of my previous answer that a  
5 (of depths would be useful) better idea, in setting up a bidding document for a  
6 contract, you have to give that contractor some fairly  
7 definitive understanding of what will be undertaken so that  
8 you can get a fairly precise estimate so that they do not  
9 then have multiple opportunities to come back to seek  
10 additional dollars for work.

11 Q You indicated that in the assumption as to the  
12 amount of time that it would take to implement a project of  
13 this type, you made certain assumptions regarding time for  
14 licensing; is that correct?

15 A We made allowance for certain times for permitting  
16 an environmental reporting; that is correct.

17 Q Was that assumption or allowance based upon a  
18 particular understanding as to a particular agency or  
19 agencies which would be required to issue permits?

20 A Partially. The time for permitting and  
21 environmental reporting coincides with the year for  
22 design. Depending on the particular desires and  
23 requirements of several regulatory agencies, it may take  
24 more or less than a year.

25 As an example, we do not know if the Corps of

marysimons 1 Engineers under their 404 program would require an  
2 environmental report before they would issue 404 permit for  
3 dredging the stream. At a minimum a 404 permit will most  
4 likely be required.

5 Q Is that what is commonly known as a dredge and  
6 fill permit?

7 A It is.

8 Q Would that turn upon whether or not Kress Creek  
9 was considered to be in navigable waters?

10 A I believe it would.

11 MR. NICKLES: I <sup>would</sup> look at the Bayside decision in  
12 the Supreme Court recently as pretty <sup>in</sup> destructive. *QW*

13 BY MR. LEWIS: (Resuming.)

14 Q Did you make any assumption as to whether or not  
15 any permits would be required from agencies of the State of  
16 Illinois?

17 A We did not.

18 Q Did you have a specific time assumption as to  
19 approvals by the Nuclear Regulatory Commission?

20 A We did not.

21 Q Were your cost estimates done in dollars in a  
22 particular year?

23 A January 1986 was the month and year utilized for  
24 our cost estimates.

25 Q Did you use some kind of an escalator for an

marysimons 1 assumed increase in costs over the -- or inflation?

2 A We did not. It is in constant January 1986  
3 dollars.

4 Q All right. Well, you told me that \$443,000 was  
5 the amount of the estimate for the doing of the final  
6 design; is that correct?

7 A Yes.

8 Q What was the amount of the estimate, the entire  
9 estimate for the project?

10 A \$7.2 million in round figures.

11 Q Have you undertaken cost estimates at other  
12 locations for radiological contamination situations?

13 A No, I have not.

14 Q Have you had occasion to do cost estimates of  
15 excavation and removal of hazardous waste, non-radiological  
16 hazardous waste?

17 A Yes.

18 Q Have any of those other projects involved  
19 excavation and removal of materials in and along a  
20 waterway?

21 A Yes.

22 Q Did any of those projects involve dewatering?

23 A Yes.

24 Q In undertaking your cost estimates for this  
25 project, have you consulted any documents from the United

marysimons 1 States Department of Energy?

2 A I don't believe so.

3 Q More specifically, have you consulted any  
4 documents regarding removal of soil and decontamination  
5 activities at other radiologically contaminated sites?

6 A No.

7 Q Have you been asked to make any assumptions  
8 regarding approvals that would be required from the DuPage  
9 County or the City of West Chicago regarding this project?

10 A No.

11 MR. NICKLES: Do you want to take five minutes,  
12 Steve, and review your notes?

13 MR. LEWIS: Sure.

14 (Recess taken from 11:15 a.m. to 11:25 a.m.)

15 BY MR. LEWIS: (Resuming.)

16 MR. NICKLES: All set?

17 MR. LEWIS: Yes.

18 BY MR. LEWIS: (Resuming.)

19 Q Mr. Thorsen, you stated that in the conceptual  
20 plan the area that was excavated would be reclaimed. Did  
21 you mean by that that the area would be restored as near as  
22 possible to its previous type of vegetation, for example?

23 A The statement that I made was that the roadways  
24 would be reclaimed and you added when the backyards were  
25 also reclaimed, or something of that nature.

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Q Yes.

2 A If you could frame it within that.

3 Q Yes. You mean, for example, supposing an area  
4 that is presently a backyard that has grass on it is  
5 disturbed as part of the project, would it be reseeded?6 A It would be reseeded or otherwise restored to as  
7 near as natural or as near as pre-cleanup, which is my  
8 definition of natural.9 Q Yes, as near as it was in its state prior to the  
10 cleanup activity.11 If trees had to be uprooted as part of the  
12 project, would new trees be planted?13 A It was estimated in the manner that if a tree was  
14 removed, a tree would replace it, but not necessarily of  
15 the same size and not necessarily, at least outside of the  
16 neighborhood areas, not necessarily tree for tree.17 Q Outside of the railroad crossing, are there any  
18 other crossings of the creek or river, man-made crossings  
19 of the creek or river in the area that was included within  
20 your study?21 A There are two crossings at Joliet~~te~~ and Wilson  
22 Road and at Route 59.23 Q Would those roads have to be used at all by  
24 traffic associated with the cleanup activity?

25 A It may be, yes.

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Q Do you intend to include in your testimony specific information on the components of the \$7.2 million overall estimate for the project?

A Components can mean many words. The building blocks, if you will, that lead to \$7.2 million in a table that will identify the different aspects or components, that will add up to the \$7.2 million, yes. That is a preliminary figure, I might add. It has not been finalized at this point.

Q Whatever the figure is, that is the figure that you have previously stated you would have confidence in within minus 15 percent and plus 25 percent band in terms of comparing it to the final cost?

A That is correct.

Q Have you been asked by Kerr-McGee Chemical Corporation to do any final cost estimate?

A No, we have not.

Q Have you had any consulting role for Kerr-McGee Chemical Corporation with regard to other cleanup of other radiologically contaminated areas in and around the City of West Chicago?

A No.

Q Have you previously testified in any other proceedings?

A Yes.

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Q Were any of those proceedings before State or  
Federal agencies?

A Yes.

Q For example, have you had any occasion to testify  
before the Corps of Engineers in any of their permitting  
activities?

A No.

Q Before the Environmental Protection Agency?

A No.

Q What agencies of the Federal Government have you  
testified before regarding conceptual design work for  
cleanup activities?

A I have not.

Q Your testimony then was with respect to other  
matters?

A It was.

Q Would that also be true if I asked you the same  
question regarding any State agencies?

A No. My prior employer was with the State of  
Wisconsin in the role as Chief of the Hazardous Waste  
Management Section.

Q So in that connection you would have been offering  
testimony in State agency proceedings?

A Correct.

Q Will you be offering any opinion as part of your

marysimons 1 testimony as to whether or not the radiological  
2 contamination described in the Oak Ridge report should be  
3 cleaned up?

4 A No.

5 Q Is it your understanding that testimony that you  
6 will be offering in this proceeding will be offered with  
7 Mr. Taylor?

8 A Yes.

9 Q Do you know whether it will also be offered with  
10 Mr. Denny?

11 A I am told it will be.

12 Q In addition to your testimony that you are  
13 preparing, are you preparing any report that will be  
14 submitted to Kerr-McGee?

15 A We are.

16 Q Is that report completed?

17 A No.

18 MR. LEWIS: Counsel, if I may ask you, will that  
19 report be offered in the proceeding?

20 MR. NICKLES: Probably<sup>not</sup>. We are going to be  
21 submitting testimony as per the order of the Board. *QW*

22 MR. LEWIS: I have no further questions.

23 MR. NICKLES: Fine. Thank you, counselor.

24 MR. LEWIS: Thank you.

25 THE WITNESS: Certainly.

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(Whereupon, at 11:37 a.m., the deposition of JOHN  
W. THORSEN concluded.)

\* \* \* \* \*

(I have read the foregoing pages  
/ through 32, inclusive,  
which contain a correct transcript  
of the questions therein recorded.  
Signature is subject to  
corrections.

JOHN W. THORSEN, P.E.

\* \* \* \* \*

I, Annette Hughes

, Notary Public in and

for the ~~District of Columbia~~ <sup>COUNTY of COOK, STATE of ILLINOIS</sup>, do hereby certify that I am  
notarizing and witnessing signature for the Deposition of  
JOHN W. THORSEN on this 18<sup>th</sup>, day of ~~January~~ <sup>march</sup>, 1986.

*Annette Hughes*

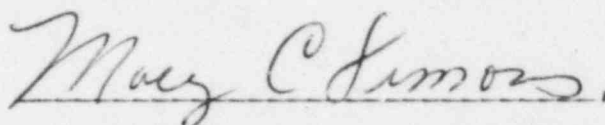
Notary Public in and for the

~~District of Columbia~~ <sup>COUNTY of COOK, STATE of ILLINOIS</sup>

My Commission expires 13 January 1989

## CERTIFICATE OF NOTARY PUBLIC

I, Mary C. Simons, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me in stenomask to the test of my ability and thereafter reduced to word processing by me, that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.



Mary C. Simons

Notary Public in and for the  
District of Columbia

My Commission expires

August 15, 1989

Page	Line	Correction:
6	14	is = can be seen
6	23	limit <u>2</u> of diversion control <sub>x</sub>
8	25	pertinent = appurtenant
11	4	Frame report = Frame Report
11	21	one method to do it, ...
20	8	"How much more" <u>2</u>
20	11	specifics I can
24	5	better <del>idea</del> <u>idea</u> of depth would be useful <sup>1</sup> ...
25	11	I <u>would</u> look
25	12	destructive = instructive
28	21	Joliette = Joliet
31	20	Probably. = <u>Probably not.</u>