US EPA RECORDS CENTER REGION 5
518506

8/21/80

2103

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA, Plaintiff, vs. MIDWEST SOLVENT RECOVERY INC.; MIDWEST INDUSTRIAL WASTE DISPOSAL COMPANY, INC.; INDUSTRIAL TECTONICS, INC.; V & E CORPORATION; ERNEST DE HART; EDWARD D. CONLEY; HELGA C. CONLEY; LOVIE DE HART; CHARLES A. LICHT; DAVID E. LICHT; DELORES LICHT; EUGENE KLISIAK; JEANETTE KLISIAK; LUTHER G. BLOOMBERG; ROBERT J. DAWSON, JR.; JOHN MILETICH; MARY MILETICH; PENN CENTRAL CORPORATION; INSILCO CORPORATION; RUST-OLEUM, INC.; ZENITH RADIO CORPORATION; STANDARD T CHEMICAL COMPANY, INC.; AMERICAN CAN COMPANY, INC.; PRE FINISH METALS, INC.; PREMIER COATINGS, INC.; MOTOROLA, INC.; and DESOTO, INC.; Defendants.	Civil Action No. H-79-556 Third-Party Complaint
AMERICAN CAN COMPANY, INC., DESOTO, INC., INSILCO CORPORATION, MOTOROLA, INC., PRE FINISH METALS, INC., PREMIER COATINGS, INC., RUST-OLEUM, INC., STANDARD T CHEMICAL COMPANY, INC., ZENITH RADIO CORPORATION, JOHN MILETICH, MARY MILETICH and THE PENN CENTRAL CORPORATION, Third-Party Plaintiffs, vs. ACCUTRONICS, ACTIVE SERVICE CORP., AMERICAN NAMEPLATE & DECORATING CO.,	

1 AMERICAN PRINTER & LITHOGRAPHER CO.,)
AMERICAN RIVET COMPANY, APECO,)
2 APPROVED INDUSTRIAL REMOVAL, INC.,)
ARMOUR PHARMACEUTICAL, ARTISAN HAND)
3 PRINTS, ASHLAND CHEMICAL CO.,)
AVENUE TOWING COMPANY, BARR &)
4 NILES, INC., BELDEN ELECTRICAL)
PRODUCTS DIV. OF COOPER INDUSTRIES,)
5 INC., BRETFORD MANUFACTURING, INC.,)
BUTLER SPECIALTY COMPANY, INC.,)
6 BY PRODUCTS MANAGEMENT, CALUMET)
CONTAINER, CARGILL, INC.,)
7 CHEMALLOY DIVISION OF FISHER- CALO)
CHEMICAL CO., CHICAGO ETCHING CORP.,)
8 CHICAGO NAMEPLATE COMPANY,)
CHICAGO ROTOPRINT CO.,)
9 C & C INDUSTRIAL MAINTENANCE CORP.,)
CITY OF GARY, INDIANA, C.P. CLARE)
10 DIVISION OF GENERAL INSTRUMENTS)
CORP., C.P. HALL CO.,)
11 C.P. INORGANICS, COMMANDER PACKAGING,)
CONNOR FOREST INDUSTRIES, CONSERVA-)
12 TION CHEMICAL, CONSUMERS PAINT)
FACTORY, INC., CONTINENTAL)
13 WHITE CAP DIVISION OF CONTINENTAL)
CAN COMPANY, CONVERSIONS BY GERRING,)
14 COUNTY OF DU PAGE, ILLINOIS,)
CRONAME, INC., CROWN CORK & SEAL)
15 CO., INC., CULLIGAN INTERNATIONAL)
COMPANY, CULLIGAN WATER CON-)
16 DITIONING, INC., FRANK J. CURRAN,)
CUSTOM METALS PROCESSING,)
17 DAP, INC. OF BEECHAM COSMETICS,)
DAUBERT CHEMICAL COMPANY,)
18 DEUBLIN COMPANY, DOBSON CONSTRUCTION)
INC., DUO FAST CORPORATION, DU-TONE)
19 CORP., HAROLD EGAN, EKCO HOUSEWARE)
CO., EL-PAC, INC., EMBOSOGRAPH DIS-)
20 PLAY MFG. CO., ESS KAY ENAMELING, INC.,)
ETHICON, INC., FELT PRODUCTS MFG. CO.,)
21 FLINT INK CORP., FURNAS ELECTRIC)
CO., GEARMASTER DIVISION, EMERSON)
22 ELECTRIC, THE GILBERT & BENNETT)
MFG. CO., GLD LIQUID DISPOSAL,)
23 HENRY PRATT COMPANY, J.M. HUBER)
CORPORATION, HYDRITE CHEMICAL CO.,)
24 INTAGLIO CYLINDER SERVICE, INC.,)

1 JOHNSON & JOHNSON, J & S TIN MILL)
PRODUCTS, KNAACK MFG. CO., LANSING)
2 SERVICE CORPORATION, LAUTTER)
CHEMICAL, LIQUID DYNAMICS,)
3 LIQUID WASTE, INCORPORATED,)
STEVE MARTEL, MASONITE CORPO-)
4 RATION, McWHARTER CHEMICAL CO.,)
METAL RECLAIMING CORPORATION,)
5 METROPOLITAN CIRCUITS,)
MIDWEST RECYCLING COMPANY, MONTGOMERY)
6 TANK LINES, MORTON THIOKOL INC.,)
MR. FRANK, INC., NAMSCO, INC.,)
7 NATIONAL CAN CORPORATION, NAZ-DAR CO.,)
NUCLEAR DATA, INC., PPG INDUSTRIES,)
8 INC., PASLODE COMPANY, PIERCE & STEVENS)
CHEMICAL CORP., PIONEER PAINT PRODUCTS,)
9 PREMIER PAINT CO., PYLE-NATIONAL CO.,)
R-LITE, REFLECTOR HARDWARE CORP.,)
10 REGAL TUBE, RELIANCE UNIVERSAL, INC.,)
RICHARDSON GRAPHICS, JOHN ROSCO,)
11 ROZEMA INDUSTRIAL WASTE, ST. CHARLES)
MANUFACTURING, SCHOLLE CORPORATION,)
12 SCRAP HAULERS, SHERWIN WILLIAMS)
COMPANY, SHELD COATINGS, INC.,)
13 SIZE CONTROL COMPANY, SKIL CORPORA-)
TION, SPECIAL COATINGS CO.,)
14 SOUTHERN CALIFORNIA CHEMICAL,)
SPECIALTY COATINGS, INC.,)
15 SPOTNAILS, INC., STAR TRUCKING, STERN)
ELECTRONICS, INC., JOE STRAUSNICK,)
16 STUART CHEMICAL & PLAINT, INC.,)
SUMMER & MACE, SUN CHEMICAL,)
17 SYNTECH WASTE TREATMENT CENTER,)
T.R.C., TEEPACK, INC., ALFRED TENNY,)
18 THIELE-ENGDAHL, INC., THOMPSON)
CHEMICALS, TIFFT CHEMICALS,)
19 TOUNEY DISPOSAL, TRIPLE S. ETCHANTS,)
UNIROYAL, INC., UNITED RESIN AD-)
20 HESIVES, INC., U.S. ENVELOPE, U.S.)
SCRAP AND DRUM, U.S. STEEL CORP., UNI-)
21 VERSAL RESEARCH LABORATORIES, INC.,)
UNIVERSAL TOOL & STAMPING COMPANY,)
22 VANDER MOULEN DISPOSAL, VELSICOL)
CHEMICAL CORP., VICTOR GASKET)
23 DIVISION OF DANA CORPORATION,)
WARNER ELECTRIC BRAKE & CLUCH CO.,)
24 WARWICK CHEMICAL, WASTE RESEARCH &)

1 RECYCLING, XEROX CORPORATION, and)
other unidentified persons,)
2)
Third-Party Defendants.)
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DEPOSITION OF RICHARD E. BOICE
8
9 August 21, 1990
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5 The continued deposition of RICHARD EDWIN
6 BOICE, called for examination by the Defendants,
7 pursuant to notice and pursuant to the
8 provisions of the Federal Rules of Civil
9 Procedure of the United States District Courts,
10 pertaining to the taking of depositions for the
11 purpose of discovery, taken before Arnold N.
12 Goldstine, a Notary Public and Certified
13 Shorthand Reporter within and for the County of
14 Cook and State of Illinois, at 227 West Monroe
15 Street, Chicago, Illinois, on August 21, 1990,
16 commencing at the hour of 9:30 o'clock a.m.
17
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24

1 APPEARANCES:

2

3 Mr. Alan S. Tenenbaum
4 Trial Attorney
Environmental Enforcement Section
5 Land & Natural Resources Division
U.S. Department of Justice
6 P. O. Box 7611
Ben Franklin Station
7 Washington, D. C. 20044

8 -and-

9 Mr. Michael R. Berman
Assistant Regional Counsel
10 Solid Waste & Emergency Response Branch
U.S. Environmental Protection Agency
11 Region V
230 South Dearborn Street
12 Chicago, Illinois 60604

13 -and-

14 Peter W. Moore
Assistant Regional Counsel
15 U.S. Environmental Protection Agency
Region V
16 Office of Regional Counsel
230 South Dearborn Street
17 Chicago, Illinois 60604

18 appeared on behalf of Plaintiff,
United States of America;

19

20

21

22

23

24

1 APPEARANCES (CONTINUED):

2

Mr. Carl B. Hillemann and
3 Ms. Jacqueline Vidmar
Sonnenschein Nath & Rosenthal
4 One Mercantile Center
Suite 2600
5 St. Louis, Missouri 63101

6 appeared on behalf of
Desoto, Inc.;

7

8

Mr. Joseph V. Karaganis
9 Karaganis & White, Ltd.
414 North Orleans Street
10 Chicago, Illinois 60610

11 appeared on behalf of
American Can Company, Inc.;

12

13

Mr. James T. J. Keating
14 Law Offices of James T. J. Keating, P.C.
Printers Row
15 542 South Dearborn Street
Chicago, Illinois 60605

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appeared on behalf of
17 Premier Coatings, Inc.;

18

19

Ms. Linda M. Bullen
20 McDermott, Will & Emery
227 West Monroe Street
21 Chicago, Illinois 60606-5096

22 appeared on behalf of Standard T
Chemical Company;

23

24

1 APPEARANCES (CONTINUED):

2

3 Mr. Ralph W.F., Lustgarten and
Mr. John R. Adams
4 Taylor, Miller, Sprowl, Hoffnagle &
Merletti
5 33 North LaSalle Street
Chicago, Illinois 60602-2602

6

7 appeared on behalf of Third-
Party Plaintiffs Desoto, et al.

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1 I N D E X

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WITNESS:

3

RICHARD E. BOICE

4

Examination by:

5

Mr. Karaganis: 2192
6 2298
2439
7 2501

8 Mr. Tenenbaum 2423

9 Mr. Keating 2483

10

11

E X H I B I T S

12

13 Boice Deposition Nos.

14

56 2215
15 57 2298
58, 59, 60, 61 2313
16 62 2333
63 2405
17 64 2413
65 2431
18 66 2431
67 2435

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1 MR. KARAGANIS: Let's get started and do our
2 best. When the documents get here, we will have
3 to go back.
4 So let the record show that this is the
5 resumed deposition of Mr. Richard Boice pursuant
6 to agreement.
7 RICHARD E. BOICE
8 having been previously duly sworn,
9 was examined and testified further as follows:
10 DIRECT EXAMINATION
11 BY MR. KARAGANIS:
12 Q. Mr. Boice, you realize you are still
13 under oath?
14 A. Yes.
15 Q. Mr. Boice, are you familiar with the
16 geologic or hydrogeologic dimensions or
17 characteristics of the Midco I and Midco II
18 sites?
19 A. Generally, yes.
20 Q. Could you again describe -- when the
21 documents come, you are fully able to go back
22 and check against the documents.
23 Could you describe the various geologic
24 strata that exist from the surface on down at

1 Midco I?

2 MR. TENENBAUM: Just for record, let me

3 object to the extent this question is seeking to

4 get into any record issues, or to the extent

5 this question is seeking any testimony that

6 would require an expert opinion.

7 You may answer if you know the answer

8 to the question.

9 A. The topography is Oakville tawas. It

10 has alternating --

11 BY MR. KARAGANIS:

12 Q. I am sorry, slow down.

13 A. Oakville tawas, something like that.

14 Q. That's the surface?

15 A. That's the topography.

16 It has alternating sand ridges and

17 sloughs of organic or peat deposits. And then

18 the top 30 feet at Midco I, I think it is down

19 to 40 or 50 feet at Midco II --

20 Q. Let stay with Midco I.

21 Top 30 feet.

22 A. The Calumet aquifer.

23 Q. Slow down, let's not talk about water

24 for a minute. Let's talk about soil or rock

structure.

The top 30 feet is what?

(Discussion had off the record.)

Let's go to soil or rock structure, then we will come back to aquifers.

What is the soil structure or rock structure of the top 30 feet? What material is it?

A. Generally sandy material with some gravel lenses.

Q. Okay.

Then after the top 30 feet, what is next?

A. There is about 90 feet of a confining layer consisting of clays, and generally clay, low-permeability material.

Q. All right.

Then what is below the 90 feet?

A. Bedrock.

MR. TENENBAUM: Can I just interrupt for a second.

Joe, I take it that you and the other defendants would not have any problem with me asking these types of questions of Mr. Ball, is

1 that correct?

2 If you would, then I think we should

3 have the same treatment for both.

4 MR. KARAGANIS: I can't speak for other

5 defendants, but I don't have any objections to

6 asking that of Mr. Ball. If they are fact

7 questions, if he has knowledge, I assume you are

8 taking him as a fact witness.

9 MR. TENENBAUM: I am talking about the fact

10 part of the deposition.

11 MR. KARAGANIS: Yes. I have no problem with

12 facts.

13 MR. TENENBAUM: Okay.

14 None of the other defendants present

15 have any objection?

16 MR. KARAGANIS: What you have got is the

17 principals for the other defendants, you have

18 got people subbing today for the other

19 defendants.

20 MR. TENENBAUM: They are here, they are

21 here.

22 Anyone have any objection?

23 MR. KARAGANIS: Off the record.

24 (Discussion had off the record.)

1 MR. TENENBAUM: No objection being heard, I
2 will allow the witness to answer.
3 BY MR. KARAGANIS:
4 Q. Okay.
5 And the bedrock is how thick, do you
6 know?
7 A. Our drilling didn't go below bedrock,
8 it went to bedrock.
9 Q. Okay.
10 Now, within that soil and rock, the
11 soil and rock layers that you have defined, what
12 are the water conditions?
13 A. The water conditions?
14 Q. Yes.
15 A. Well, in the top 30 feet, which is the
16 sandy material and gravel material, it is the
17 Calumet aquifer, and that is usable for
18 residential drinking water. And it is used for
19 residential drinking water by a number of
20 residences in the area.
21 Q. All right.
22 Now, this Calumet aquifer, at Midco I
23 does this rise to the surface or is it below the
24 surface?

1 A. At Midco I on the site itself it is
2 below the surface, it is connected to the
3 wetlands in the area.
4 Q. All right.
5 Meaning that in the wetland areas it
6 actually reaches the surface?
7 A. That is my understanding. It recharges
8 the wetlands sometimes.
9 Q. On the site, what is the depth from the
10 surface to the top of the groundwater table?
11 A. At Midco I?
12 Q. Yes.
13 A. I think it is around 5 feet.
14 Q. And in the terminology of EPA, is there
15 a name given to the soil and rock zone or the
16 soil zones above the groundwater versus below
17 the groundwater?
18 A. Yes.
19 Q. What terms are used?
20 A. Below the groundwater is called the
21 saturated zone, above the watertable is called
22 the unsaturated zone.
23 Q. Have you ever heard of the unsaturated
24 zone being referred to as the Vadose zone?

1 A. Yes.
2 Q. Are they typically synonymous, those
3 terms, meaning roughly the same thing?
4 MR. TENENBAUM: Same continuing objection.
5 A. I'm not sure.
6 BY MR. KARAGANIS:
7 Q. Would it be a fair summary, then, that
8 you have an aquifer that is about 25 feet deep
9 that goes from about 5 feet below the surface
10 down to 30 feet below the surface?
11 A. Something like that, yes.
12 Q. Okay.
13 And the bottom of the aquifer is
14 defined by this confining layer of clay?
15 A. Yes.
16 Q. Okay.
17 Just as a matter of limiting the scope
18 of any dispute that we have, is there any
19 concern by EPA that there is contamination or
20 the potential for contamination into or through
21 the clay layer?
22 MR. TENENBAUM: Hold it.
23 Can you tell me how that would be
24 relevant to any non-record issue?

1 MR. KARAGANIS: Yes. It is relevant to
2 whether or not we are being asked to respond.
3 I must tell you, Alan, I have been
4 through both prior to our deposition, during our
5 deposition and after our deposition, to get
6 clear as to what it is we are concerned about
7 here. And for reasons that we have discussed,
8 there are some inconsistencies in the record.
9 I am trying to find out whether or not
10 we are being at all charged with failure to do
11 something. For example, that is one of the
12 reasons why I am eliminating things.
13 Is there anything that EPA is asking us
14 to do in the clay layer at Midco I?
15 If there is not, that clearly
16 eliminates the clay layer. That's all I am
17 doing.
18 Is there anything anywhere that says
19 you must do something in the clay layer?
20 MR. TENENBAUM: As part of the
21 administrative orders you mean?
22 MR. KARAGANIS: No.
23 I am asking him, is he familiar with
24 the sites. Is there anything of public concern

1 in the clay layer?

2 MR. TENENBAUM: As you know, the matter of

3 public concern were the basis for the records of

4 decision and the administrative orders and those

5 are subject to record review.

6 MR. KARAGANIS: Having been through them

7 page by page, it is not clear and there is --

8 using your terminology and in the light most

9 favorable to you, the record is unclear or

10 incomplete with respect to the clay layer issue.

11 If there isn't a problem, there isn't a

12 problem.

13 MR. TENENBAUM: Well, I think that the

14 record can speak for itself on that.

15 I don't think that we need to -- there

16 has been any adequate showing or ruling by the

17 court that you are entitled to take discovery on

18 the basis of the Agency's decision.

19 MR. KARAGANIS: I am trying to find out

20 whether or not we are being charged with failure

21 to undertake a cleanup.

22 You will find out, Alan, very clearly

23 what some of the problems are with respect to

24 the declared cleanup as we progress through this

1 in terms of defining what the cleanup is.
2 All I am trying to do by process of
3 elimination is to say either EPA wants us to
4 clean up in the clay layer or it doesn't.
5 MR. TENENBAUM: You see, all the documents
6 you are talking about either speak for
7 themselves or are supported by the position in
8 the record.
9 MR. KARAGANIS: As an officer of the court,
10 Mr. Tenenbaum, I will say to you that as to the
11 clay layer, beneath the Midco I site, the EPA
12 documents are silent as to whether or not that
13 clay layer does or does not need attention.
14 So all I am trying to do for purposes
15 of record clarification, for purposes of
16 understanding what we are charged with and what
17 we are not charged with, is to eliminate the
18 issue of the clay layer.
19 If there is an issue, let's bring it
20 out.
21 MR. TENENBAUM: I don't think that a
22 deposition is the appropriate --
23 MR. KARAGANIS: It isn't?
24 MR. TENENBAUM: -- mechanism for

1 interpreting the Agency's orders or for
2 determining the basis for the Agency's
3 decision-making process.
4 MR. KARAGANIS: This is not the basis. I am
5 simply asking whether there is a layer that is
6 below 30 feet.
7 MR. TENENBAUM: That you already asked.
8 MR. KARAGANIS: Yes.
9 Now I am asking simply is there any
10 public health or environmental concern as to
11 that layer down to bedrock. It goes down for 90
12 feet.
13 If that is not an issue in this case,
14 let's make sure we know it.
15 MR. TENENBAUM: I think that the record
16 already speaks for itself on the issue, what the
17 issues are in the case.
18 MR. KARAGANIS: Alan, as an officer of the
19 court, I am telling you that the record is
20 silent on that issue, and it is certainly one
21 that is a major concern to my client in
22 identifying what EPA believes its
23 responsibilities to be.
24 MR. TENENBAUM: If you have a problem with

1 the record on that issue, then you can argue to
2 the court that the record doesn't --
3 Well, you can try and argue to the
4 court, I don't think you will succeed, and that
5 is, that the record doesn't support the Agency's
6 decision, if that is really relevant or not to
7 the issue.
8 MR. KARAGANIS: Let's move on.
9 Are you instructing him not to answer?
10 MR. TENENBAUM: Yes.
11 I will have to instruct him not to
12 answer that.
13 Alternatively, I would say if you are
14 having difficulty interpreting the
15 administrative order in any way, send us a
16 letter and we will evaluate and see what your
17 problem is and see if we can be of any help.
18 But, I don't think -- this witness is
19 not a lawyer and he is not going to be able to
20 interpret the administrative orders for you.
21 MR. KARAGANIS: My question relates to
22 public health concern and to contamination, Mr.
23 Tenenbaum, it doesn't relate to lawyers.
24 And I am asking on behalf of my client

1 whether this witness knows of any environmental
2 conditions representing any public health threat
3 or environmental health threat in the clay layer
4 beneath Midco I. And you are instructing him
5 not to answer.
6 MR. TENENBAUM: I am going to have to,
7 because that is a record issue.
8 The Agency has made its findings on
9 substantial endangerment and they are available
10 to you and to your clients and they will help
11 your client comply with the orders.
12 BY MR. KARAGANIS:
13 Q. Mr. Boice --
14 MR. TENENBAUM: Just let me --
15 BY MR. KARAGANIS:
16 Q. If you were allowed to answer that
17 question, would you be able to?
18 A. What was the question?
19 Q. The question relates to whether or not
20 there is any condition of environmental or
21 public health concern in the clay layer beneath
22 the site that would require any kind of response
23 activity either by EPA or by the defendants?
24 A. Yes.

1 Q. You could answer that question?
2 A. Uh-hum.
3 Q. Are you recording the uh-hum as an
4 affirmative; is that what you mean?
5 A. Yes.
6 Q. Now, Mr. Boice, I want to ask you
7 another question.
8 Is there any condition of environmental
9 or public health concern in the bedrock beneath
10 the 90 feet of confining layer at Midco I?
11 MR. TENENBAUM: Same objection and
12 instruction.
13 BY MR. KARAGANIS:
14 Q. Mr. Boice, if your counsel had not
15 instructed you not to answer, would you be able
16 to answer that question?
17 A. Yes.
18 MR. TENENBAUM: Again for the record, I
19 would point counsel to Section 106, I believe it
20 is B 2 of the statute; and your client, if it
21 has trouble with any of the Agency's findings,
22 it is free to comply with the orders, then
23 petition for reimbursement, if it feels it can
24 make a showing that the Agency has been -- a

1 showing entitling it to reimbursement under that
2 section.
3 MR. KARAGANIS: Mr. Tenenbaum, if you read
4 either the ROD's or the 106 orders, you will
5 find that they are silent with respect to both
6 of the geologic strata to which I have mentioned
7 as to their environmental conditions.
8 MR. TENENBAUM: I think that the better
9 course of action would be for your client to
10 comply with the orders, and then -- rather than
11 trying to engage in discovery into these
12 matters, which are very time consuming for all
13 concerned, comply with the orders, and then
14 petition for reimbursement. And at that point
15 the situation can be evaluated then.
16 MR. KARAGANIS: Mr. Tenenbaum, you have made
17 your instructions, we will move on.
18 Q. Mr. Boice, with respect to the 90 foot
19 confining layer, are you aware of any attempts
20 to test either the soil conditions or the water
21 conditions in the 90 foot containing layer or
22 confining layer?
23 A. Yes.
24 Q. What tests were taken, what samples

1 were taken?
2 A. At Midco I only or at Midco II?
3 Q. At Midco I only.
4 A. There were two borings and one went
5 through the 90 feet confining layer into
6 bedrock. That was upgradient, in the upgradient
7 flow direction from the site. That was one.
8 Q. Slow down.
9 There was one boring that went to
10 bedrock?
11 A. Yes.
12 Q. And that was upgradient of the site?
13 A. Yes.
14 Q. So it was off-site?
15 A. Yes.
16 And they took continuous samples during
17 that boring for the geological, to evaluate the
18 geological formation.
19 Q. All right.
20 And what other boring was there?
21 A. There was another boring downgradient
22 from the site that went about 90 feet down.
23 Q. Into bedrock?
24 A. It was screened in the confining layer

itself. Samples of formation were also taken during installation of that monitoring well.

Q. Samples of which formation, the geologic strata as it was drilled?

A. Yes. The Calumet aquifer and the confining layer.

Q. Okay.

Was there a downgradient well screened or were there samples taken downgradient in the bedrock?

A. No.

And then there were also -- yes, they took samples and they ran -- they did a classification of the soil by ASTM method.

Q. When you say classification of the soils. You are talking about classification of the various strata that were in the drill core?

A. Yes. Then they ran some Shelby tube samples for permeability.

Q. This again is on the material that was recovered from the two borings you have described?

A. I believe some of them were on those two borings, yes.

1 Q. All right.
2 Were there any other borings that went
3 into either the clay layer, borings or other
4 kinds of samples, either into the clay layer or
5 into the bedrock under Midco I?
6 A. Yes.
7 Geosciences put in an additional well,
8 I think it was called J. And they recovered a
9 sample of the clay layer there, too, to test the
10 effect of high salt on the permeability of the
11 clay.
12 Q. Okay.
13 Geosciences put in a well called J?
14 A. Yes.
15 Q. And the purpose of it was again? I am
16 sorry.
17 A. Well, part of the purpose was to get
18 another groundwater sample and look for an oil
19 layer that may have been present at the bottom
20 of the aquifer. The other reason was to sample
21 the --
22 Q. Oil layer at bottom of what aquifer?
23 A. The Calumet aquifer.
24 Q. All right.

1 A. And the other reason was to recover a
2 sample of the clay and to run a test to test the
3 effect of high salt, high salt solution on the
4 permeability of the clay.
5 Q. All right.
6 This well J, how deep did it go?
7 A. About 30 feet.
8 Q. Did it go into the confining clay
9 layer?
10 A. My understanding is they continued the
11 boring into the confining layer. Then they --
12 I think it was screened above the
13 confining layer.
14 Q. So from the standpoint of groundwater
15 sampling, it was sampling the sand layer; is
16 that correct?
17 A. Yes.
18 Q. From the standpoint of soil samples,
19 you took a core that went through the sand and
20 took core sand samples, as well as confining
21 layer soil samples?
22 A. Yes.
23 Q. How deep into the confining layer did
24 it go?

1 A. I'm not sure, about 5 feet, I think.
2 Q. Other than the two borings you
3 mentioned earlier and the Geoscience boring,
4 were there any other sampling activities either
5 in the 90 foot confining layer or in the
6 bedrock?
7 A. Not in the confining layer. There were
8 samples from residential wells in the bedrock.
9 Q. Okay.
10 Water samples taken from residential
11 wells?
12 A. Yes.
13 Q. Where was the Geoscience's well,
14 upgradient or downgradient or on-site or what?
15 A. You mean this additional well?
16 Q. Yes. J.
17 A. It was right in the middle of the site.
18 Q. You said one of the purposes was to
19 look for an oil layer at the bottom of the
20 Calumet aquifer?
21 A. Yes.
22 Q. That would have been at the bottom of
23 this 30 feet below surface?
24 A. Yes.

1 Q. Did they find an oil layer or find any
2 evidence of oil?
3 A. No.
4 Q. What was the suspicion that they were
5 trying to --
6 A. Since there was a lot of material
7 dumped into the site, there was a possibility
8 that some of the material could sink to the
9 bottom of the aquifer and sit on the bottom of
10 the aquifer. And Geoscience's felt that they
11 needed one more well to check that out.
12 Q. Okay.
13 What is the geologic and
14 hydrogeologic -- strike that.
15 What geologic and hydrogeologic
16 conditions exist at Midco II?
17 MR. TENENBAUM: Same continuing objections
18 as before, to the extent that this line of
19 questions will seek any testimony relating to
20 record-review issues, and again to the extent it
21 is seeking testimony that will require an expert
22 opinion.
23 BY MR. KARAGANIS:
24 Q. Go ahead, Rich.

A. It is similar to Midco I. The same topography, except like at Midco I, I forget to mention, that the top layer has been filled in with fill and at Midco I especially with refuse.

And then below that there is the sand type of formation, it goes down -- at Midco II it goes down 40 to 50 feet. Then the confining layer continues.

Q. At Midco II the sand layer is 40 to 50 feet?

A. Yes.

Q. Okay.

And then how deep is the next layer?

A. The confining layer below that was about -- I think it was about 60 feet deep, or thick. And below that is bedrock.

Q. Okay.

And with respect to the water conditions at the two sites -- I am sorry, at the Midco II site, what water conditions are there?

A. Well, there is the Calumet aquifer. This is I guess about 30 to 40 feet deep. It is usable for residential drinking water sources.

1 Q. Okay.
2 So the record is clear, when you say 30
3 to 40 feet deep, you mean 30 to 40 feet thick?
4 A. Yes, thick.
5 Q. How far is the groundwater surface from
6 the soil surface or land surface?
7 A. That is about 10 feet.
8 Q. Was there any sampling at Midco II of
9 the soil, rock or water conditions in the
10 confining layer of the bedrock?
11 A. Soil, rock or what?
12 Q. Or water conditions in the confining
13 layer or the bedrock?
14 A. Yes.
15 Like Midco I, there was an upgradient
16 well. It was supposed to be upgradient, but it
17 turned out the water was flowing off in all
18 directions.
19 But, there is one well south of the
20 site that went to bedrock. And soil samples
21 were collected continuously and evaluated
22 using -- they are classified using the ASTM
23 method.
24 And also there was one well on the

1 north end of the site that went into -- that was
2 screened in the confining layer, that geological
3 samples were also collected for that well.
4 Q. Okay.
5 A. Then there were some residential wells,
6 those also were sampled for groundwater, and
7 there was some residential wells in the area
8 that were sampled for groundwater that went into
9 the bedrock aquifer.
10 Q. So other than residential wells, you
11 have two wells here as opposed to three at Midco
12 I?
13 A. Yes.
14 Although the third one at Midco I
15 wasn't screened in the confining layer, but the
16 boring went into the confining layer.
17 Q. So you got soil samples but not water
18 samples from J?
19 A. Yes.
20 Q. Okay.
21 Q. I believe we are at 56.
22 (The document above-referred to
23 was marked Boice Deposition
24 Exhibit No. 56 for identification.)

1 Mr. Boice, I wonder, if you would let
2 the record show that Boice Deposition Exhibit
3 number 56 are appendices C-I and C-II from the
4 answers that were given to us by Mr. Boice
5 entitled, "Response and objections of the United
6 States to the first set of interrogatories by
7 the generator defendants to plaintiff United
8 States of America." And consist of C-I being
9 the activities at the Midco I site, C-II being
10 the activities at the Midco II site.
11 I direct your attention to the table
12 C-II. You will find --
13 A. C-II?
14 Q. Yes. C-II, please.
15 A. Okay.
16 Q. Now, if you would also familiarize
17 yourself with I believe it is Boice Deposition
18 Exhibit 3, which is the certification of
19 documents composing the administrative record, I
20 will get it for you. You can use mine. Turn to
21 tab 3.
22 A. Okay.
23 Q. Now, directing your attention to the
24 6/16/77 entry on Exhibit 56, page 1 of the

1 Exhibit C-II.
2 A. Yes.
3 Q. There is a reference there to June 16,
4 '77, water sample identification sheets.
5 Are those listed in the index to the
6 various administrative ROD's records in Boice
7 No. 3?
8 A. No, I don't see it here.
9 Q. So the water samples that are listed as
10 the first item in Exhibit C-II are not in the
11 administrative record indices in Boice
12 Deposition Exhibit No. 3; is that correct?
13 A. That's correct.
14 Q. Would you turn to the next item, which
15 references a site inspection and site photos and
16 references a memorandum from Dr. Eugene Meyer
17 dated 8/7/79.
18 Is that document in the record?
19 A. Yes.
20 Q. Okay.
21 And directing your attention to the
22 next document, which is the 8/13/79 memo from J.
23 M. Boyle.
24 Is that document in the record?

1 MR. TENENBAUM: Again, let me state for the
2 record I do object to these questions about the
3 compilation and contents of the record.
4 The record indexes are such that they
5 may not be susceptible to a quick finding by the
6 witness as to whether things are in the record.
7 I therefore have to object to that process and
8 the use thereof.
9 MR. KARAGANIS: The only reason that they
10 are not susceptible to a quick finding is that
11 they have been either inadvertently or
12 deliberately shuffled as to date.
13 I would be happy to lend him my
14 chronologically sorted copy.
15 I will state for the record that it is
16 very difficult, if not impossible, given the way
17 the record is organized to find chronological
18 references. And I simply can't find certain
19 documents, and I am simply asking the witness,
20 who is familiar --
21 MR. TENENBAUM: I just want to state in case
22 the witness should make an error and there's
23 something that turns out is in the record. I do
24 want to object to the process of doing it this

1 way.

2 If we had organized the record or if

3 the record had been organized in a different

4 fashion, I am sure you would have objected. You

5 or one of the other defendants would have

6 objected to that organization, because it didn't

7 reflect something else.

8 So we are in a no-win situation here

9 with respect to the various defendants and their

10 contentions in this case. Some contend there is

11 not enough in the record, some contend there is

12 too much in the record. And you can see it is a

13 no-win situation.

14 MR. KARAGANIS: I am just trying to find out

15 whether documents are in there or not. I am

16 asking him a question to see if he can please

17 check.

18 A. Which document was it?

19 Q. I am referring to the 8/13/79 memo from

20 J. M. Boyle.

21 MR. TENENBAUM: Again while the witness is

22 looking, we will state for the record our

23 outstanding invitation to all the defendants

24 with respect to any items they believe belong in

1 the record that are not in the record.
2 Send us a letter and we will consider
3 your request. And the key thing here is to make
4 sure that the court has before it the
5 appropriate record.
6 We are willing to work with all the
7 defendants on that, if they think there is some
8 problem with it. And so far I haven't gotten
9 any letter from any defendant with respect to
10 any item that they think belongs in the record.
11 A. No, that is not. I don't see that in
12 the record.
13 BY MR. KARAGANIS:
14 Q. All right.
15 Directing your attention to the next,
16 the 10/30/79 memo from L. E. Townsend, is that
17 in the record?
18 A. Okay.
19 I can't find it.
20 Q. What I am going to do to move along is
21 to give you a list of documents that are listed
22 in Midco I and Midco II, Exhibit C-I and C-II,
23 which is Boice Deposition Exhibit 56, which we
24 are unable to determine that they are present in

1 the record and ask you to confirm, because they
2 do appear to be documents that are relevant to
3 the issues in this case.
4 A. They were documents that were produced
5 to you.
6 Q. Mr. Boice, I'm not here to debate with
7 you. They are just apparently not in the
8 record.
9 A. But they are available to you, right?
10 MR. TENENBAUM: Is there a question pending?
11 BY MR. KARAGANIS:
12 Q. Directing your attention to page 3,
13 first to page 2 --
14 A. I found the report that you asked about
15 previously.
16 Q. Yes.
17 A. It is in the unilateral administrative
18 order appendix or administrative record index.
19 Q. What document is that?
20 A. 79/10/30 report on survey at Midco II
21 by L. E. Townsend.
22 Q. Okay.
23 There is reference at that same page to
24 a 9/25/79 memo also containing samples by Mr.

1 Curtis Ross, R-o-s-s. Is that also in the
2 record?
3 A. I thought you were going to send us a
4 list?
5 Q. Well, they seem to be in pairs.
6 There are samples by Mr. Townsend on
7 metals and cyanide. Then there are samples by
8 Mr. Ross on base metals and organics.
9 I am wondering, you say you have
10 identified the metals and cyanide samples in the
11 record.
12 I am asking whether or not the base
13 metals and organic samples are in the record?
14 A. Well, they are not just samples. They
15 are memorandums that have sample results
16 attached to them.
17 Q. All right.
18 Is that memorandum by Mr. Ross with the
19 sample results attached to them in the record?
20 A. No, it doesn't appear to be in the
21 record.
22 Q. Directing your attention to page 2,
23 there is a reference to an action date of
24 11/24/80, which has a category entitled

1 information for enforcement support and hazard
2 evaluation. Then it has three documents listed
3 there. One is an 11/25/80 memorandum by a Mr.
4 McCarrin; two is a 12/1/80 memo from Mr.
5 McCarrin. M-c-C-a-r-r-i-n; three is a document
6 entitled, "Sample evidence profiles."
7 Are those documents listed in Boice
8 Deposition Exhibit No. 3?
9 A. The 11/25/80 inspection appears to be
10 in the record. It is listed as a site
11 inspection by Ecology & Environment, Inc.
12 Q. How about the 12/1/80?
13 A. Yes. That is also in the record.
14 Q. Okay.
15 A. Under 12/1/80, report of site
16 activities in late 1980. Mike McCarrin, Ecology
17 & Environment.
18 Q. How about the next item on C-II, which
19 says Erin Moran, activity on 2/9/81, it says the
20 task was to sample the waste, sample evidence
21 profiles.
22 I guess my question is, are the two
23 items, one, the sample evidence profiles that
24 are under the 11/24/80 entry on appendix C-II,

1 and the sample evidence profiles under the
2 2/9/81 entry on C-II?
3 A. Those aren't in the record.
4 I think those were considered, at the
5 time anyway, to be under the claim of privilege.
6 MR. TENENBAUM: Can you read back the
7 question? I missed the question.
8 A. He is asking about these sample
9 evidence profiles.
10 MR. TENENBAUM: Let him repeat the question
11 back.
12 (The record was read.)
13 Is there a pending question?
14 BY MR. KARAGANIS:
15 Q. Yes.
16 Are they in the record?
17 A. I said no, not the sample evidence
18 profiles.
19 Q. Directing your attention to the next
20 page, page 4, again under the 2/9/81 activity,
21 the purpose of which includes hazard evaluation,
22 there is a reference to sample evidence
23 profiles.
24 Are those sample evidence profiles

1 listed in Boice Deposition Exhibit 3?
2 A. No, none of the sample evidence
3 profiles are listed in -- in the administrative
4 record index.
5 Q. Directing your attention to -- and I
6 will try where I can to use the process of
7 giving you a list of documents that we can't
8 find in the administrative record, but there are
9 some chronological questions which I need to ask
10 here.
11 MR. TENENBAUM: Of course, you know most if
12 not all of these documents were produced to you.
13 So it is not a question of your being
14 able to find the documents. It is a question of
15 your not being able to find them in the record.
16 MR. KARAGANIS: Mr. Tenenbaum, one of the
17 basic tenants of the administrative law, even
18 under the presumed record-review law, is that
19 documents that are relevant to issues in the
20 case should be in the record and made available
21 as record items for purposes of allowing
22 adversarial comment so the record is complete.
23 This hasn't been done here.
24 MR. TENENBAUM: I am sure that we will have

1 ample opportunity to brief the correctness of
2 the statement you just made and the relevance of
3 it to any issue in this case.
4 But, I just want the record to be clear
5 that there is not a question as to your receipt
6 of the documents that were produced.
7 BY MR. KARAGANIS:
8 Q. Mr. Boice, moving along, there is an
9 entry at 4/28/81 under C-II, which says that a
10 fence was installed to limit access to the site.
11 And it cites a 6/10/81 memo from George Madany.
12 Is that item in the record, Boice
13 Deposition Exhibit No. 3?
14 A. It doesn't appear to be in the record.
15 Q. Mr. Boice, do you recall or are you
16 aware of what the purpose of installing the
17 fence was?
18 A. To restrict access from the site.
19 Q. Why was it desirable to restrict
20 access?
21 A. There were thousands of drums of
22 chemicals on the site at that time. They were
23 leaking and they were hazardous chemicals.
24 Q. Was that then intended that the

1 installation of a fence would protect the public
2 health?
3 MR. TENENBAUM: Objection to the extent that
4 the question seeks to obtain discovery on
5 record-review issues.
6 BY MR. KARAGANIS:
7 Q. Go ahead.
8 MR. TENENBAUM: Also objection to the extent
9 that the witness wasn't employed there at the
10 time.
11 You may answer to the extent you know.
12 A. That would be my understanding, yes.
13 BY MR. KARAGANIS:
14 Q. All right.
15 Under the CERCLA process to your
16 knowledge is there a document prepared which is
17 used to support the expenditure of federal funds
18 to install a fence?
19 MR. TENENBAUM: Objection, calls for a legal
20 conclusion.
21 A. It is my understanding that a document
22 is prepared, yes, to initiate the funding.
23 BY MR. KARAGANIS:
24 Q. And such document would include the

1 public health protection considerations, would
2 it not?
3 MR. TENENBAUM: Same objection.
4 A. I'm not sure at that time, but it
5 probably would mention something about the
6 public health considerations. Yes.
7 BY MR. KARAGANIS:
8 Q. All right.
9 Are the documents relating to the
10 fencing at Midco II listed in Boice Deposition
11 Exhibit No. 3?
12 A. Which documents?
13 Q. Well, there is reference at the
14 beginning at 4/28/81, first of all at 2/9/81,
15 there is a hazard evaluation, and then following
16 upon the hazard evaluation, there is an activity
17 which says, "installed fence to limit access to
18 the site."
19 Would it be a fair assumption by a
20 layman that the installation of the fence
21 followed the hazard evaluation?
22 A. Yes.
23 Q. Would it be a fair assumption by a
24 layman that the installation of the fence was

1 designed to address whatever hazard was found in
2 the hazard evaluation?
3 MR. TENENBAUM: Why are you asking to a
4 layman?
5 This witness is not an expert witness.
6 MR. KARAGANIS: Just so there is no question
7 of expertise, we don't think there is a question
8 of expertise here in my questions. I am just
9 making sure that nobody --
10 MR. TENENBAUM: Can you read back the last
11 question?
12 (The record was read.)
13 Objection, to the extent it seeks
14 discovery into record issues. Objection to the
15 extent it calls for an expert opinion.
16 BY MR. KARAGANIS:
17 Q. Go ahead.
18 MR. TENENBAUM: Object to the extent this
19 witness was not employed on this case at that
20 time.
21 A. What was the question?
22 BY MR. KARAGANIS:
23 Q. To speed things up, directing your
24 attention to the entry at February 9, 1981 there

1 is a hazard evaluation. Next entry is, "install
2 fence to limit access to the site."
3 Is it a fair assumption from the
4 chronological sequence of those two entries,
5 that the fence was installed to address the
6 hazard found in the hazard evaluation?
7 MR. TENENBAUM: Also objection, vague.
8 A. You are probably right, but I'm not
9 sure.
10 BY MR. KARAGANIS:
11 Q. All right.
12 Now, there are a series of documents
13 listed on page 5 of Boice Deposition Exhibit No.
14 56, the Midco II index, from 7/29, to 9/6/81
15 with the statement the purpose is to limit
16 access to the site to prevent exposure to
17 hazardous chemicals, and it lists a series of
18 documents there as well.
19 Are any of the documents related to the
20 installation of the fence around Midco II
21 contained or listed in Boice Deposition Exhibit
22 No. 3?
23 A. Would you repeat that question?
24 Q. Are any of the documents relating to

1 the installation of a fence in the summer of
2 1981 around Midco II listed in the index known
3 as Boice Deposition Exhibit No. 3?
4 A. There is 82-3-2.
5 Q. I am now referring to the activity
6 period of July 29 to August 6, 1981.
7 A. You mean, I thought you meant any
8 document related to the fence installation?
9 MR. TENENBAUM: That was the question,
10 wasn't it?
11 BY MR. KARAGANIS:
12 Q. Excuse me.
13 What is your first entry with respect
14 to a document relating to the fence?
15 MR. TENENBAUM: Same objection as earlier.
16 A. In what, in this summary here?
17 BY MR. KARAGANIS:
18 Q. In Boice Deposition Exhibit No. 3. You
19 said you found a document relating to the fence.
20 What document did you find?
21 A. There is one dated 82-3-2.
22 Q. I am sorry, what date is that in?
23 A. Fiscal year '82. 3-2-82.
24 Q. I see.

1 That says is that for Mr. Roche?
2 A. Yes.
3 Q. United States Coast Guard?
4 A. Yes.
5 Q. Subject refusal to fund fencing?
6 A. Yes.
7 Q. I am not asking about any refusal to
8 fund fencing.
9 I am asking, somebody put in a fence,
10 didn't they?
11 A. I thought you asked for any document
12 related to the fencing.
13 Q. Okay.
14 A. What exactly are you asking for?
15 Q. I am asking for documents that related
16 to the need for fencing and who put it in and
17 what its impact was.
18 Obviously, somebody put a fence in
19 there in the summer of '81. It was done by EPA,
20 it was done for a purpose. I cannot find any
21 evidence in the record as to what its function
22 was, what impact it has, or who was involved in
23 it.
24 A. Okay.

1 You might look at these documents.
2 There is 82-3-2. There is another one 82-4-15.
3 Q. Slow down, I am slow. 82 what?
4 A. 82-4-15.
5 Q. That is April of '81 -- I am sorry,
6 April of '82 versus the summer of '81.
7 A. Probably that date is wrong in my
8 appendix C-II.
9 Q. Which date?
10 A. Where it says 7/9, to 8/6/81, it is
11 probably 82.
12 Q. Okay.
13 So would it be --
14 A. I would have to go look back and check.
15 There is something wrong with the dates here.
16 Q. All right.
17 There is something wrong with the dates
18 in the Midco II Appendix C-II, Boice Deposition
19 Exhibit 56?
20 A. Right.
21 Q. All right.
22 And is your assumption because the
23 documents generated in the documents generated
24 column in C-II all show as spring of 1982

1 instead of '81?
2 A. Yes.
3 Q. All right.
4 So when to the best of your
5 recollection was the fence installed?
6 A. I don't know. I would have to look at
7 the documents.
8 Q. All right.
9 Why don't you pull the record
10 documents. You mentioned one being of 3-2-82 by
11 Roche, R-o-c-h-e. You mentioned another one
12 being 4-15-82 by Madany?
13 A. Yes.
14 Okay. What was the question?
15 MR. KARAGANIS: Read it back.
16 (The record was read.)
17 A. Okay.
18 Q. Mr. Boice, have you found the two
19 documents that you earlier referenced as having
20 been in the record index, Boice Deposition
21 Exhibit 3, that relate to the fence?
22 A. That's correct.
23 Q. Now, do those documents tell you
24 anything as to when the fence was installed?

1 A. It looks like it was installed in 1981.
2 Q. In 1981?
3 A. Yes.
4 Q. When in 1981?
5 A. It doesn't indicate on these documents.
6 Q. Is there anything in the record to your
7 knowledge that indicates when the fence was
8 installed?
9 A. Well, I think I just stated that this
10 letter here indicates, suggests anyway, that it
11 was in 1981.
12 Q. What letter are you referring to?
13 A. April 13, 1982.
14 Q. By what author?
15 A. By George Madany, OSC.
16 Q. And are there any documents in the
17 Boice index, Boice Deposition Exhibit 3, that
18 relate to the facts that led to the installation
19 of that fence, factual conditions that led to
20 the installation of the fence?
21 A. Anything in Boice Exhibit --
22 Q. 3.
23 A. Okay.
24 Yes. Well, the historical conditions

1 would have been summarized in the remedial
2 investigation studies. The hydrogeologic
3 reports.
4 Q. Excuse me, Mr. Boice.
5 MR. TENENBAUM: I think he should be allowed
6 to finish answering.
7 MR. KARAGANIS: All right.
8 Q. Go ahead.
9 A. Also some of the preliminary
10 hydrogeologic reports.
11 Q. I am asking specifically what facts
12 and/or documents existed prior to the
13 installation of the fence that led to the
14 decision to put in a fence?
15 MR. TENENBAUM: You are asking a new
16 question now.
17 A. Before you were asking about the
18 administrative record.
19 BY MR. KARAGANIS:
20 Q. Let's go back again.
21 What documents exist in the
22 administrative record predating the installation
23 of the fence that would relate to the factual
24 basis for installing the fence?

1 A. Other than these two letters, those are
2 the only ones I can find.
3 Q. And those two letters are six months or
4 more after the installation of the fence; isn't
5 that right?
6 A. Yes.
7 I guess the previous site inspection
8 such as the ones by L. E. Townsend would provide
9 some information on conditions at the site
10 before the fence was put up.
11 Q. But normally before federal funds would
12 be expended, there would be a paper trail, would
13 there not, of justification for such
14 expenditures?
15 A. They have to go through some type of
16 procedure, yes.
17 I presume all of those have been
18 produced to you.
19 Q. Is there any such paper trail in Boice
20 Deposition Exhibit No. 3, prior to the
21 construction of the fence?
22 A. No. It wasn't designed to back up the
23 decision to fence the site in 1982.
24 Q. There would have been, you agree, Mr.

1 Boice, that there was and is very likely
2 documentation to support the decision to
3 construct the fence back in 1981?
4 A. All the documentation I know of are
5 listed in Exhibit C-II.
6 Q. You would agree that there is no
7 documentation prior to the construction of the
8 fence supporting its construction in Boice
9 Deposition Exhibit 3?
10 A. Yes. I think I would agree with that.
11 Q. All right.
12 Now, direct directing your attention to
13 page 9 of the C-II and specifically the activity
14 under the entry June 2, 1982, the purpose is
15 said to be, "aid in determining need for a
16 surface removal action."
17 Again, is there typically documentation
18 prepared to support a proposed surface removal?
19 A. Yes.
20 Q. All right.
21 Would it be a fair statement that one
22 of the functions of surface removal is to
23 address immediate or emergency health threats to
24 the public?

1 MR. TENENBAUM: Objection, calls for a legal
2 conclusion, inadequate foundation. And
3 objection to the extent it seeks discovery into
4 any record-review issues.
5 BY MR. KARAGANIS:
6 Q. Go ahead.
7 A. I'm not sure exactly what the criteria
8 is, but it has to meet certain criteria,
9 including a finding of imminent and substantial
10 endangerment.
11 Q. One of its functions is to find that
12 endangerment, and then you have to create or
13 propose a program or create a program to address
14 that endangerment, isn't that right?
15 MR. TENENBAUM: Same objection.
16 A. Yes.
17 BY MR. KARAGANIS:
18 Q. And I will just note, but these become
19 very important, the 6/2/82 memo from C. F.
20 Beize. B-e-i-z-e.
21 A. Yes.
22 Q. We can't find it in Boice Deposition
23 Exhibit No. 3, but maybe you can.
24 A. No. It doesn't appear to be in the

1 exhibit.

2 Q. Would it be a fair statement that if

3 the purpose of the memorandum related to a

4 hazard evaluation and a surface removal, that

5 the memorandum had at least some relationship to

6 questions of public health protection?

7 MR. TENENBAUM: Same objection.

8 A. Yes.

9 It would have related to -- well,

10 probably related more to estimating the extent

11 of removal necessary, but also to, yes, public

12 health protection at that time from the presence

13 of drum materials on the site.

14 BY MR. KARAGANIS:

15 Q. When you say extent of removal, extent

16 of removal relates to the extent of the action

17 needed to protect public health; isn't that

18 right?

19 MR. TENENBAUM: Same objection. Also vague.

20 A. Yes. To protect public health from the

21 containers on the site. Right.

22 BY MR. KARAGANIS:

23 Q. From any --

24 A. The hazard wastes that are present on

1 the surface of the site.
2 Q. From any emergency or immediate health
3 threat, isn't that right?
4 MR. TENENBAUM: Same objection. Calls for a
5 legal conclusion, too.
6 A. I am not sure whether to call it an
7 emergency or immediate threat.
8 BY MR. KARAGANIS:
9 Q. Isn't that what removals address?
10 A. They address time-critical problems,
11 yes.
12 Q. By time-critical, you mean something
13 that needs to be done right away, right?
14 A. Yes, that can be addressed right away,
15 too.
16 Q. Now, directing your attention to the
17 next entry which says -- I am now on Boice
18 Deposition Exhibit No. 56 -- EPA activities at
19 the Midco II site, entry date 8/10/82. It says
20 that the purpose is to help Dr. David Homer in
21 preparation of an endangerment assessment.
22 It refers to an 8/10/83 memo from Dr.
23 David Homer.
24 Now, is there again a glitch here on

1 dates?

2 A. I don't know.

3 Q. The next entry, this is Exhibit 56,

4 Appendix C-II, was that intended to be in

5 chronological order?

6 A. Yes.

7 Q. If the next date I have in

8 chronological order is from, let's see if I just

9 have this right, we have an activity on the 2nd

10 of June, 1982, which says it has as its purpose

11 hazard evaluation.

12 And is it a fair statement that using

13 Exhibit 56, appendix C-II, that the next

14 activity is not until August of 1983?

15 A. I didn't follow your statement.

16 Q. Coming back to page 9 on Exhibit 56,

17 Appendix C-II. You have a document by Mr. Beize

18 on June 2, 1982, which has as its purpose hazard

19 evaluation. Then says its purpose also is to

20 aid in determining need for a surface removal

21 action.

22 And then the next entry in

23 chronological sequence for Midco II is dated

24 August 10 of 1983, some fourteen months later.

1 A. I think it says August 10, 1982,
2 doesn't it?
3 Q. If you look at the documents generated.
4 A. Oh.
5 Q. There appear to be fourteen missing
6 months.
7 A. Yes.
8 But what is your point?
9 Actually, there was an 8 -- according
10 to this, there was an inspection on 8/10/82. An
11 inspection on 12/12/83 by Sharon Waldvogel.
12 Q. I am just trying to deal with the
13 period of time between June of --
14 A. There was an assessment completed.
15 Q. Excuse me, Mr. Boice. Mr. Boice,
16 please let me ask the questions.
17 MR. TENENBAUM: He is trying to answer the
18 question.
19 BY MR. KARAGANIS:
20 Q. I am dealing with the period, Mr.
21 Boice --
22 A. There was a site visit on September --
23 in September '83.
24 Q. Okay.

1 Mr. Boice, I am trying to deal with the
2 very explicit period between June of 1982 and
3 August 1 of 1983.
4 Now, can you tell me what activities
5 took place by EPA as reflected in either Boice
6 Deposition Exhibit 3 or Boice Deposition Exhibit
7 56 with respect to Midco II?
8 MR. TENENBAUM: Object. Vague, ambiguous.
9 A. Well, all I have is this document so
10 you can read it as well as I can.
11 BY MR. KARAGANIS:
12 Q. All right.
13 Would it be a fair statement that there
14 does not appear to be any activity by EPA at the
15 Midco II site from June 2 of 1982 to August 1 of
16 1983 with the exception of an activity date, a
17 site observation of 8/10/82?
18 MR. TENENBAUM: Object. This witness wasn't
19 even working on this case at that time. How
20 would he know?
21 A. Well, according to the administrative
22 record on this, there were some -- there appears
23 to be some type of proposes for proposals for
24 cleanup submitted by different parties at that

1 time, during that period of time.
2 BY MR. KARAGANIS:
3 Q. For Midco II?
4 A. Yes.
5 Q. What entries are you referring to?
6 A. There is one dated 82-11-8. Disposal
7 cleanup by operator, submitted by W. Padula of
8 Rubins & Padula.
9 Okay. There was one, 82-12-9 by the
10 same Rubins & Padula to Mike Berman.
11 Q. All right.
12 Q. Any other things shown in Boice
13 Deposition Exhibit No. 3, the so-called index to
14 administrative records, that reflect what went
15 on in that period of time from June '82 to
16 August '83?
17 MR. TENENBAUM: Same objection.
18 And again I reiterate, as I did last
19 time, that this witness is not the designate of
20 the Agency on the removal activities.
21 A. Okay.
22 I do see according to the
23 administrative record that trip report by David
24 Homer was '83. Of course -- okay.

1 BY MR. KARAGANIS:
2 Q. So, is it possible that the 8/10/82
3 entry on page 9 is again a typographical error?
4 A. That is possible.
5 Q. Okay.
6 Anything else between August 1 -- I am
7 sorry -- between June 2 of '82 and August 1 of
8 '83?
9 MR. TENENBAUM: Same objection.
10 A. That is all I can find right now.
11 BY MR. KARAGANIS:
12 Q. Okay.
13 So now we come to August of '83 and the
14 8/10/83 memo from Dr. David Homer.
15 Is that in the record, Boice Deposition
16 Exhibit 3?
17 A. Yes, I just saw it.
18 Q. Could you find that, please?
19 A. Okay.
20 Q. Do you find it in the record, please?
21 A. Yes, I found it.
22 Q. In the index, would you find the
23 document, please?
24 A. Okay.

1 Q. While you are at it, before you get up,
2 would you also find, listed on Boice Deposition
3 Exhibit 9, there is an entry dated 8/12/83
4 entitled, "Midco II endangerment assessment by
5 Dr. David Homer." Would you find that document
6 as well.
7 (A short recess was taken.)
8 MR. KARAGANIS: Back on the record.
9 Q. Mr. Boice, you were looking at as we
10 broke for two documents, one is the 8/10/83 memo
11 from Dr. David Homer.
12 A. Yes.
13 Q. And also the Midco II endangerment
14 assessment by Dr. David Homer.
15 A. Yes.
16 Q. Did you find them?
17 A. I found the trip report. I wasn't able
18 to locate the endangerment assessment.
19 Q. Would you look at the index carefully,
20 please, and tell me whether the endangerment
21 assessment is in Boice Deposition Exhibit 3?
22 A. Okay.
23 Well, I will have to look some more.
24 Q. Let's look first at the document, the

1 trip report.

2 We will come back to the 8, '83 Midco

3 II endangerment assessment and on your next

4 break or at lunch I would ask you to look for

5 that.

6 The next item appears to be with regard

7 to any kind of short-term or time-critical

8 cleanup activities dated 9/8/83, relates to an

9 evaluation of hazards of working on the site and

10 the need for removal of surface wastes,

11 references a 9/21/83 memo from Woods, which

12 apparently is in the record.

13 Then there is a 10, '83 reference to an

14 activity by Weston-Sper. Do you know who

15 Weston-Sper is?

16 A. It is a contractor, USEPA contractor.

17 Q. Who is the Sper, is that somebody?

18 A. I don't know. That is just what they

19 call them or they used to call them, anyway.

20 Q. All right.

21 Would you find that site assessment for

22 Midco II, Gary, Indiana in the record, please?

23 That is October, '83. It is in the

24 record, the Midco II ROD record index of

1 10/25/83.

2 A. These are documents that have already

3 been produced to you, but I'll look.

4 MR. TENENBAUM: Same continuing objection.

5 Are you having trouble finding it in

6 the index, which are you looking for in the

7 index?

8 A. The site assessment of 10, '83.

9 It doesn't appear to be in there,

10 unless it is this 83-10-25 letter.

11 BY MR. KARAGANIS:

12 Q. Would you look for the 83-10-25 letter,

13 and see if that is the site assessment.

14 Did you find the document, Rich, the

15 10/25/83 document? Did you find it?

16 A. Yes. It doesn't appear to be the site

17 assessment.

18 Q. Would you show me the 10/25/83

19 document, so we are clear, I may wish to

20 identify it.

21 A. You want to look at that now?

22 Q. Please.

23 Now, let me get this straight. I am

24 directing your attention to the 10/25/83 letter

1 by Weston-Sper which is in the record. That
2 letter of 10/25/83 is not the document that is
3 referred to in Boice Deposition Exhibit 56 under
4 appendix C-II entitled, "Site assessment for
5 Midco II, Gary, Indiana, October '83"?
6 A. It doesn't appear to be.
7 Q. Okay.
8 Now, I would like to direct your
9 attention to the following language in the
10 October 25, 1983 letter from Ballotti & Thorsen
11 to Bowden, and I quote:
12 "In conclusion, due
13 to the apparently small
14 quantities of hazardous
15 materials on the site,
16 effective site security
17 (i.e., the fence) preventing
18 human contact, and a minimal
19 threat of fire or explosion,
20 the Midco II site does not
21 appear to present an
22 emergency situation or merit
23 an immediate action
24 cleanup."

1 Do you know whether any action was ever
2 taken on that recommendation?
3 MR. TENENBAUM: Objection. This witness is
4 not being designated as a removal witness for
5 the Agency. No foundation.
6 MR. KARAGANIS: It doesn't say anything
7 about removal.
8 MR. TENENBAUM: The document you read
9 didn't --
10 MR. KARAGANIS: It says emergency cleanup.
11 It is right where the yellow tag is.
12 MR. TENENBAUM: I reiterate my objection.
13 MR. KARAGANIS: Specifically -- and I will
14 attempt to identify for you other documents,
15 Alan, that are missing -- but, certainly it
16 seems to me that the site assessment for Midco
17 II, which has as its function to recommend
18 cleanup actions and estimate costs, certainly
19 should be in this record.
20 And we need it to pursue our
21 understanding of the alleged hazards that exist
22 at the site.
23 MR. TENENBAUM: You have this document. It
24 was produced to you.

1 MR. KARAGANIS: You said it was made
2 available to us. I would like the document made
3 available.
4 MR. TENENBAUM: Why?
5 MR. KARAGANIS: It isn't here. I would like
6 it after lunch.
7 A. You can't keep track of your documents.
8 Q. Mr. Boice, I don't have the document
9 and I don't need critical comments.
10 I don't have it. I am asking for a
11 copy of it. Site assessment for Midco II, Gary,
12 Indiana.
13 MR. TENENBAUM: We will have to see whether
14 it is in storage or whether it is easy to get.
15 What the story is. Maybe one of the other
16 defendants can --
17 MR. KARAGANIS: I am assuming it is in your
18 files. That is what I was told before.
19 MR. TENENBAUM: I don't know whether it is
20 easily accessible over a lunch break.
21 MR. KARAGANIS: Let's see if we can get it.
22 MR. TENENBAUM: Maybe one of the other
23 defendants might have a copy.
24

1 BY MR. KARAGANIS:

2 Q. Moving on to the next entry, 11/3/83

3 activities, which again say help evaluate site

4 hazards. There is a memorandum dated November

5 9, '83 by Mr. C. F. Beize, B-e-i-z-e. Is that

6 in the index to the record?

7 A. Which one is this? 11/9/83?

8 Q. Yes.

9 A. It appears to be. There is a site

10 inspection by Ecology & Environment dated

11 11/9/83.

12 Q. All right.

13 There is also reference here to, I am

14 now referring to the next page of appendix C-II,

15 Boice Deposition Exhibit 56, a series of

16 memoranda from a Mr. Curtis Ross, one dated

17 December 5, 1983, a second dated 12/20/1983.

18 Would those have involved evaluation of

19 site hazards?

20 A. No, just providing analytical results.

21 Q. Mr. Curtis Ross is a laboratory person?

22 A. Yes. He was the director of the

23 central regional laboratory.

24 Q. For EPA?

1 A. Yes.
2 Q. So he would have been providing
3 chemical data; is that right?
4 A. Yes.
5 Q. Is the chemical data that is referenced
6 in the memoranda from Mr. Ross of 12/5/83 and
7 12/20/83 in the index, administrative record
8 indices of Boice Deposition Exhibit 3?
9 A. Unless it is attached to that
10 inspection report, it doesn't appear to be in
11 the list on Exhibit 3.
12 Q. By definition, it couldn't have been
13 attached to the inspection report, since it
14 post-dates the inspection report; is that right?
15 A. But it might have been attached as
16 relevant information.
17 Q. Would you please check the record?
18 A. Okay.
19 By the way, I found the endangerment
20 assessment here, under 12/22/83, EPA.
21 Q. You found an endangerment assessment
22 entry for a December '83 endangerment
23 assessment. I asked you before for an August
24 '83 endangerment assessment. They are not

1 necessarily the same document.
2 A. This would have been -- that would have
3 been the final report.
4 Q. I didn't ask you that, Mr. Boice.
5 A. The final endangerment assessment by
6 David Homer is -- the one of 12/22/83 is the
7 date Val Adamkus signed some type of a -- it is
8 the date Val Adamkus signed it, so that is the
9 date of the --
10 Q. Mr. Boice, was there more than one
11 version of the David Homer endangerment
12 assessment?
13 MR. TENENBAUM: You mean draft? You said
14 version.
15 BY MR. KARAGANIS:
16 Q. I said version.
17 Was there one produced in August?
18 Was a different version produced at
19 some other date?
20 MR. TENENBAUM: I am not sure --
21 MR. KARAGANIS: You can call it drafts, if
22 you want to interpret it that way.
23 I was asking whether there was a
24 physical document in August 1983 and a different

1 physical document in December of 1983.
2 MR. TENENBAUM: Object to the extent it is
3 vague.
4 BY MR. KARAGANIS:
5 Q. Do you understand what I am talking
6 about?
7 A. There were drafts prepared before the
8 final.
9 Q. Right.
10 So would it be a fair statement that
11 there was a different physical document in
12 August of '83 than the document that is dated
13 December '83?
14 A. There was a draft document prepared
15 prior to the final document. Yes.
16 Q. Follow my question. This is capable of
17 being answered yes or no.
18 Is it not correct that there was a
19 different physical document called endangerment
20 assessment authored by Mr. Homer in August of
21 1983 from a document dated December 1983
22 entitled endangerment assessment by Homer?
23 MR. TENENBAUM: Asked and answered.
24 A. I think I answered that question.

1 There was draft documents prepared and then the
2 final document was prepared.
3 BY MR. KARAGANIS:
4 Q. So it is correct that there were
5 different documents entitled endangerment
6 assessment by Homer; is that correct?
7 A. I think I answered that.
8 Q. Please answer the question, sir. You
9 are obligated under the civil procedures to
10 answer that question.
11 MR. TENENBAUM: You asked if there were
12 different documents.
13 MR. KARAGANIS: I didn't get an answer.
14 MR. TENENBAUM: The answer was yes, there
15 was a draft and then a final. Whether that
16 means they are different or not, who knows.
17 Depends what you mean.
18 MR. KARAGANIS: Mr. Tenenbaum, if a document
19 has different words or annotations on it, it is
20 physically different.
21 MR. TENENBAUM: That may be the way you mean
22 the question, but somebody reading the
23 transcript will think that it is two completely
24 different documents.

1 MR. KARAGANIS: I will ask it again.
2 Q. Mr. Boice, is it not correct that there
3 was a document in August of 1983 called
4 endangerment assessment which had either
5 different notations or different words than a
6 document called endangerment assessment for
7 Midco II in December of 1983?
8 A. As I said before, there were draft
9 documents prepared. And then based on the draft
10 documents, a final endangerment assessment was
11 prepared and signed by Val Adamkus.
12 Q. Did you keep the earlier documents?
13 A. I think we have some drafts, yes, in
14 our files.
15 Q. Okay.
16 I don't want by my moving on for you to
17 think that your refusal to answer properly is
18 acceptable, Mr. Boice.
19 A. I think I answered properly.
20 MR. TENENBAUM: I think the witness gave a
21 complete answer to the question.
22 The question was a vague, ambiguous
23 question. He tried his best to give his answer
24 so that it wouldn't be misleading on the record.

1 I think he gave a very proper answer.
2 BY MR. KARAGANIS:
3 Q. Where is the December '83 endangerment
4 assessment for Midco II?
5 A. Do you want me to get it from the
6 record?
7 Q. Please.
8 When you refer to the December
9 endangerment assessment by Dr. David Homer, you
10 are referring to the endangerment assessment
11 that has the handwritten notation "12/22/83" and
12 is attached to a December 22, 1983 memorandum
13 from Adamkus to Lasaro; is that correct?
14 A. I think it is correct. I would have to
15 look as it.
16 Q. Please look at it.
17 A. Yes. It is also signed by Val Adamkus
18 on December 22, 1983.
19 Q. Directing your attention to the
20 December 22, 1983 endangerment assessment for
21 Midco I and Midco II, with the attached
22 endangerment assessment by Homer.
23 Was the Adamkus document the basis for
24 the filing of a complaint in January of 1984,

1 seeking a 106 endangerment order?
2 MR. TENENBAUM: Objection. Seeks to probe
3 the administrative decision-making process.
4 And I believe this witness was not
5 there at that time. How could he tell you what
6 the basis for the complaint was?
7 MR. KARAGANIS: To the extent he knows.
8 MR. TENENBAUM: How could he know, he wasn't
9 there. It may also seek to get into
10 attorney-client communications and attorney work
11 product.
12 MR. KARAGANIS: If he knows, let him answer,
13 if he doesn't, he doesn't.
14 Are you instructing the witness not to
15 answer? Let's move along.
16 MR. TENENBAUM: I don't see how he can know.
17 Why don't we find out first whether he
18 knows the answer. Then we will have to take it
19 up and see if it involves attorney-client
20 matters or not.
21 BY MR. KARAGANIS:
22 Q. Mr. Boice, on December 22 of 1983, Mr.
23 Adamkus entered a finding that there may be an
24 imminent and substantial endangerment at the

1 Midco II site, which was followed within three
2 weeks by the filing of a lawsuit by the United
3 States seeking 106 relief.
4 Are you familiar with those facts?
5 A. Yes.
6 Q. Was the filing of the 106 relief action
7 in January of 1984 based on Mr. Adamkus' and Mr.
8 Homer's endangerment assessment?
9 MR. TENENBAUM: First let's find out whether
10 you know the answer.
11 Do you know the answer to that
12 question?
13 A. I don't know.
14 MR. TENENBAUM: Okay.
15 BY MR. KARAGANIS:
16 Q. Based on your knowledge of EPA
17 procedure, would it be correct that the finding
18 by Mr. Adamkus and Mr. Homer was a prerequisite
19 to the filing of the complaint?
20 MR. TENENBAUM: Calls for a legal
21 conclusion, calls for speculation.
22 Let's find out whether you know the
23 answer to that. Just, do you know the answer to
24 that one, yes or no?

1 A. I don't know.
2 BY MR. KARAGANIS:
3 Q. Mr. Boice, what action was taken by EPA
4 to address the endangerment which is identified
5 in the December 22, 1983 Adamkus memorandum at
6 Midco II?
7 MR. TENENBAUM: Objection to the extent it
8 seeks discovery into any record issues.
9 But, you may subject -- or to the
10 extent it calls for a legal conclusion or expert
11 testimony.
12 But, to the extent you are able to
13 answer, subject to my objections, you may do so.
14 A. Okay.
15 In 1984, USEPA initiated a removal
16 action. And it included removal of about 3 or
17 400 drums of -- that contained chemicals at the
18 site. And that was completed in 1984.
19 Starting in December of 1984, another
20 removal action was initiated to remove all the
21 burned out drums and other surface containers
22 from the site and to excavate and remove from
23 the site the contents of the sludge pit and the
24 filter bed.

1 BY MR. KARAGANIS:
2 Q. There was a separate removal action?
3 A. That was a separate removal action.
4 Q. Okay.
5 A. Initiated around December 1984.
6 Q. Okay.
7 A. And at the same time EPA was developing
8 a work plan for the remedial investigation
9 feasibility study to determine the full extent
10 of contamination of the groundwater and the
11 subsurface soils at the site.
12 EPA initiated the remedial
13 investigation in February 1985, but discontinued
14 work in April 1985 when a group of responsible
15 parties agreed to conduct the remedial
16 investigation feasibility study in accordance
17 with EPA's work plan.
18 Q. All right.
19 A. And after the RI/FS was done, EPA
20 selected a remedy. And now we are working on
21 implementing that remedy.
22 Q. That is to address the imminent and
23 substantial endangerment raised by Mr. Adamkus
24 in December of '83?

1 MR. TENENBAUM: Objection, vague.
2 A. I believe it would have -- this
3 endangerment assessment probably also addresses
4 or says something about the hazards to
5 groundwater and subsurface soil.
6 BY MR. KARAGANIS:
7 Q. So the various things you have listed
8 chronologically since 1984 are in response to
9 that endangerment assessment; is that correct?
10 A. I wouldn't say that. But, it helped
11 to -- it addressed the endangerment identified
12 in that document.
13 Q. I see.
14 Now, let's go back to the clean up
15 actions you mentioned. The 481 drums that were
16 removed.
17 Is there a documentary basis for
18 identifying the health hazards that were
19 represented by the drums and a documentary basis
20 indicating EPA authorization of the removal
21 action?
22 MR. TENENBAUM: Same objections as earlier.
23 A. You mean in these, in Exhibit C-II you
24 mean?

1 BY MR. KARAGANIS:
2 Q. Yes, in Exhibit C-II. And then also in
3 Boice Deposition Exhibit 3.
4 A. Okay.
5 I mentioned some of the inspections
6 that had been conducted before 1984 that were
7 used to help evaluate hazards at the site. And
8 then --
9 Q. Excuse me.
10 Which inspections are you referring to?
11 A. We mentioned a few of them during
12 this -- during our discussions.
13 Q. Which ones?
14 A. Okay.
15 There is a 6/2/82 memo from C. F.
16 Beize.
17 Q. All right.
18 A. 10/25/83 letter from Doug Bullotti.
19 There may be more than these. There is a
20 9/21/'83 memo from Don Woods.
21 And also there is documents in the
22 Midco II OSC reports, which is in the
23 administrative record.
24 Q. Which document are you referring to,

1 the Midco II OSC report?

2 (Discussion between the witness and his

3 counsel.)

4 A. Do you want me to get specific?

5 Q. Yes.

6 A. There it is right there.

7 Q. There is what?

8 A. The on-scene coordinator's report for

9 the Midco II removal conducted in 1984.

10 Q. The document you are showing me which

11 has the legend on it, "USEPA administrative

12 record update number 1, Midco II site Gary,

13 Indiana, April 27, 1989, Part --" with the

14 penciled number "-- 4 of 12." Is this a single

15 report?

16 A. Yes.

17 Q. Okay.

18 Does this cover both removals?

19 A. No, just the 1984 removal.

20 Q. You indicated there were two 1984

21 removals, one sometime 1984 and one beginning in

22 December of '84.

23 A. Well, this is the first removal that

24 occurred in 1984.

1 Q. There is the removal of the 481 drums;
2 is that right?
3 A. I'm not sure of the exact number.
4 Q. At the completion of the removal
5 action, is there an assessment made as to
6 whether or not any additional health threats,
7 either time-critical or otherwise, need to be
8 addressed?
9 MR. TENENBAUM: Objection, asked and
10 answered many times and objected to each time
11 for the various reasons, including no
12 foundation. And that this witness has not been
13 designated as a removal witness. Also to the
14 extent it seeks discovery on any record issues.
15 MR. KARAGANIS: Objection is noted.
16 Q. Go ahead.
17 MR. TENENBAUM: And calls for a legal
18 conclusion.
19 BY MR. KARAGANIS:
20 Q. Go ahead.
21 A. Is there anything in that document?
22 Q. No.
23 Is there anything that is done at the
24 conclusion of removal actions on a site, and

1 specifically with regard to Midco II, that says
2 we have done the following removal action, here
3 is how it has addressed the endangerment that
4 was the subject of the removal action?
5 A. I would have to read through it and see
6 what the document says.
7 It probably says in the document that
8 the removal action had been completed in the
9 summary report there.
10 MR. TENENBAUM: Objection.
11 BY MR. KARAGANIS:
12 Q. Let's go back.
13 We have an endangerment finding in
14 December of '83, which says, I take it, among
15 other things, that the soil and groundwater at
16 the Midco II site present an endangerment to
17 public health, does it not?
18 MR. TENENBAUM: Do you want him to look at
19 the document and see whether it says that?
20 MR. KARAGANIS: Sure.
21 Go ahead and look at it.
22 Q. Have you completed your examination of
23 the document?
24 A. Yes.

1 Q. All right.
2 The question is, in 1983, the
3 endangerment document speaks of contamination of
4 the soils and the groundwater?
5 A. That's correct.
6 Q. So would it be fair to say that in
7 1983, EPA was aware that the chemical conditions
8 in the soil and groundwater may have presented
9 an imminent and substantial endangerment to the
10 public health and environment?
11 MR. TENENBAUM: Same continuing objection.
12 A. Yes.
13 BY MR. KARAGANIS:
14 Q. And those conditions in 1983 are
15 basically the same conditions that exist today?
16 MR. TENENBAUM: Same continuing objection.
17 How is that relevant to a non-record
18 issue?
19 MR. KARAGANIS: It is relevant to a
20 non-record issue.
21 MR. TENENBAUM: How? What issue?
22 MR. KARAGANIS: Mr. Tenenbaum, I assure you
23 it is relevant. And I am not going into a
24 discussion here. I am also entitled to

1 interrogate without telegraphing to you my
2 theory of the case.
3 MR. TENENBAUM: I am sorry,
4 MR. KARAGANIS: Are you instructing the
5 witness not to answer?
6 MR. TENENBAUM: Well, what I will do is I
7 will again reiterate my objections to this type
8 of questioning for reasons that I have indicated
9 many times.
10 But, I will allow the witness to answer
11 the -- to the limited extent that he can answer
12 with respect to costs that we are seeking to
13 recover for any actions that were taken in
14 between '83 and the present that may relate to
15 this.
16 MR. KARAGANIS: This relates to physical
17 conditions that existed at the site in the soil
18 and in the groundwater at '83 and now.
19 Please repeat the question.
20 (The record was read.)
21 MR. TENENBAUM: Same objection and
22 instruction.
23 A. Well --
24 MR. TENENBAUM: The question appears to be

1 directly on record-review issues, on the finding
2 of imminent and substantial endangerment.
3 But, after my objection, you can answer
4 as to cost.
5 BY MR. KARAGANIS:
6 Q. Go ahead.
7 A. The Midco II removal is completed, so
8 all the surface containers were removed and they
9 also excavated the sludge pit and filter bed.
10 Other than that, presumably it would be
11 similar, although we can't tell exactly how much
12 different it would be from between now and then,
13 except that now we know a lot more about the
14 extent of contamination.
15 Q. With respect to the area you referred
16 to earlier in your testimony as the unsaturated
17 zone and the saturated zone at Midco II; to the
18 best of your knowledge, is there any difference
19 between conditions that existed in December of
20 1983 and the conditions that exist in August of
21 1990?
22 MR. TENENBAUM: Same objection and
23 instruction.
24

1 BY MR. KARAGANIS:
2 Q. Go ahead.
3 A. The filter bed and sludge pit were
4 buried below the surface, and those areas
5 were -- so they were in the unsaturated zone,
6 mostly. And those areas were excavated and
7 removed from the site.
8 Q. So as to the areas that were not
9 excavated and remained at the site, is there any
10 difference to your knowledge between the
11 conditions in the soil and groundwater that
12 existed in '83 versus the conditions that exist
13 in August of 1990.
14 MR. TENENBAUM: Same objection and
15 instructions.
16 A. The conditions were probably similar.
17 BY MR. KARAGANIS:
18 Q. All right.
19 Would it be a fair statement that in
20 1983 the Agency believed that the conditions in
21 the unsaturated zone down to the saturated zone,
22 as well as conditions in the saturated zone
23 presented an imminent and substantial
24 endangerment to the public health and

environment?

MR. TENENBAUM: Objection. The witness can't speak for the Agency in '83. He wasn't employed in this case at that time and, therefore, he can't speak for the Agency in '83.

MR. KARAGANIS: To the best of his knowledge.

MR. TENENBAUM: I will have to -- the question is also vague and ambiguous.

Can you read it back, please?

(The record was read.)

I don't see how he is going to be able to tell you what the Agency believed in '83 when he wasn't at the Agency on this case.

MR. KARAGANIS: He can answer to the best of his knowledge.

Q. Go ahead, Mr. Boice.

MR. TENENBAUM: Just a second.

Also subject to my objections, if you think you understand the question. It is vague. If you have a non-speculative idea about what the answer is, I will let you answer.

MR. KARAGANIS: Okay.

A. It does state in the cover letter

1 signed by Valdus Adamkus, the regional
2 administrator, that the attached endangerment
3 assessment -- based on that, I have determined
4 that a release or threat of release of hazardous
5 substances into the environment may present an
6 imminent and substantial endangerment to the
7 public health or welfare or the environment.
8 Therefore, he recommends that Gene Lasaro
9 prepare a civil recovery, Section 106 count to
10 the Department of Justice.
11 Q. Go ahead.
12 A. And the endangerment assessment
13 includes some preliminary information on the
14 groundwater and soils that indicate some
15 contamination of them, although it doesn't fully
16 define the extent of contamination to soil or
17 the groundwater.
18 Q. When you say the soil or the
19 groundwater, we are referring to the unsaturated
20 as well as the saturated zones that we described
21 before, are we not?
22 A. Yes.
23 Q. That is for Midco II?
24 A. Yes.

1 Q. Is there any documentation with respect
2 to the second removal that you say took place in
3 1984, beginning in December of '84, a separate
4 removal action?
5 A. We just sent you documents on that.
6 Q. I am sorry. You didn't send me
7 anything.
8 What are you referring to?
9 A. Didn't we send out documents on Midco
10 II?
11 MR. TENENBAUM: The documents that were sent
12 to Mike Hill, the cost documents.
13 MR. KARAGANIS: I am not referring to cost
14 documents.
15 I am referring to if there is a
16 separate removal action taken, there is
17 typically a record made of the justification for
18 the removal action, and an approval chain asking
19 for approval, and then a record indicating
20 approval by higher authority. I am asking where
21 those documents are.
22 Look, either he knows or he doesn't
23 know, Alan.
24 MR. TENENBAUM: We are just trying to

1 ascertain whether we have already given these
2 documents to the defendants and what the story
3 is.
4 (Discussion between the witness and his
5 counsel.)
6 A. What was the question?
7 BY MR. KARAGANIS:
8 Q. Where are the documents showing an
9 assessment of the need to conduct the second
10 removal, the technical need to protect public
11 health and the approval chain documents for the
12 second removal?
13 MR. TENENBAUM: Objection to the wording
14 that went with that. Object to the
15 characterization of what those documents would
16 have to do and would have to show.
17 But, generally as to Midco II removal
18 authorization, you can answer.
19 MR. KARAGANIS: I don't mean to appear
20 hasty, but I can't find any evidence in my crude
21 index to Boice Deposition Exhibit 3 as to any
22 request for authorizations for cleanup and
23 justifications for the second removal action.
24 And also evaluations and on scene coordinator's

1 reports with respect to the second removal
2 action.
3 MR. KEATING: This is the one in 1984?
4 MR. KARAGANIS: This is the one that began
5 allegedly in December of 1984.
6 You won't find it in Boice Deposition
7 Exhibit No. 66 because you stopped conveniently
8 just before that action took place.
9 A. There is one dated 1/3/84, it might be
10 misdated, I think, regarding additional removal.
11 It should probably be 1/3/85.
12 Oh & H materials contractor
13 participants, document generated November 2,
14 '84, letter from Jacquillen Streker, and
15 December 14, 1984 memo from William Hedeman to
16 Valdus Adamkus.
17 Q. December 14 memo from Hedeman to
18 Adamkus; is that right?
19 A. Yes. December 14, 1984 memo from
20 William Hedeman to Valdus Adamkus.
21 Q. Excuse me.
22 That is one of the big muckity-mucks at
23 EPA, right, in Washington?
24 A. Who.

1 Q. Hedeman.
2 MR. TENENBAUM: Objection.
3 A. He used to be.
4 BY MR. KARAGANIS:
5 Q. He used to be, I am now talking about
6 the people in the field who would have said we
7 found the following conditions that require the
8 following action to protect the public health
9 and environment.
10 Where are the documents reflecting that
11 kind of an assessment?
12 A. I think there's information on that in
13 the 1984 OSC report.
14 Q. I asked you before whether the 1984 OSC
15 report related to the second removal and you
16 said no.
17 Are you changing your answer?
18 A. I don't remember saying that.
19 Q. That's what I asked you.
20 A. I probably stated it in a different
21 manner.
22 Q. The OSC report that you referred to
23 previously, does that cover the second removal?
24 A. It probably provides some information

1 on the site conditions.

2 Q. I am not talking about the site

3 conditions. I am talking about the documents

4 where Mr. X at the Agency, who is at the field

5 level, says I need authority because the

6 conditions are as follows to conduct the

7 following removal action.

8 Where is that?

9 A. I am not sure that comes from the

10 field. The formal letter would be approved by

11 Valdus Adamkus or someone higher than him.

12 Q. Is it not true that Mr. Adamkus

13 generally receives a memorandum and

14 recommendation from his staff?

15 A. Yes. And that is the basis for his

16 memo. He prepares his own memo.

17 Q. Where is the memorandum and

18 recommendation from staff for the second

19 removal?

20 A. I am not sure there is one. I guess

21 you would have to ask someone in the removal

22 program about that.

23 Q. It is not in the indices of Boice

24 Deposition Exhibit No. 3; is that right?

1 MR. TENENBAUM: Again, while the witness is
2 looking, I will refer counsel to the documents
3 he previously produced in the case.
4 MR. KARAGANIS: I know of no documents that
5 have been previously produced.
6 MR. TENENBAUM: The ones that were recently
7 produced.
8 MR. KARAGANIS: Nor the documents that have
9 been recently produced that relate to a first
10 assessment as to what kind of endangerment
11 exists out at the site justifying short-term
12 removal action, nor a post-removal action
13 assessment as to the level of cleanup that has
14 been undertaken and any residual endangerment
15 that exists.
16 Q. Mr. Boice, would it be a fair statement
17 that the documentation, the normal Agency
18 documentation reflecting the decision sequence
19 for requests for approvals going from Adamkus'
20 staff up through Adamkus, from Adamkus to
21 headquarters, is not present in Boice Deposition
22 Exhibit 3?
23 MR. TENENBAUM: Can you read back that
24 question, please?

1 (The record was read.)
2 A. You are talking about the second Midco
3 II removal?
4 MR. KARAGANIS: Yes.
5 MR. TENENBAUM: Again for the record, we did
6 have a conversation off the record in which we
7 indicated there were certain documents that
8 might be related to this line of questioning.
9 And we previously produced those to Mr.
10 Hill, because we categorized these as within the
11 rubric of cost documents.
12 And we will be glad to send a copy of
13 these documents to either Mr. Karaganis or Mr.
14 Fort, whichever one wants to be get the Chicago
15 copy. We will be glad to provide them a copy of
16 those documents.
17 MR. KARAGANIS: I suggest to you that
18 removal actions allegedly relate to protection
19 of public health.
20 The witness has identified two actions
21 that were taken among others in response to the
22 finding of endangerment in December of 1983.
23 One of those actions was a December '84 removal,
24 which would have had to have a factual predicate

1 and authorization sequence, including requests
2 from staff to the regional administrator and
3 from the region add administrator to
4 headquarters. And, finally, the approval by
5 headquarters, which even that document isn't in
6 Boice Deposition Exhibit No. 3.
7 A. Which is meant to support the ROD
8 decision and not the remedial or the removal
9 action.
10 But, I found there are two documents.
11 One is a 87-12-3 and a 88-7-13 action
12 memorandums for increased funding for the Midco
13 II removal.
14 Q. 88 what was the last date?
15 A. 88-7-13, and 87-12-3.
16 Q. The 12-3-87 relates to a request by
17 Adamkus to increase the ceiling dollars on the
18 removal action; isn't that right?
19 A. That's correct.
20 Q. So there would have had to have been an
21 initial ceiling and justification for spending
22 up to the ceiling; isn't that right?
23 A. That's correct. But, I haven't been
24 able to locate that in the record index.

1 Q. All right.
2 Nor have you been able to locate the
3 original Hedeman authorization; isn't that
4 right?
5 A. That's correct, not in the
6 administrative record index, although it was
7 probably produced to you.
8 Q. Now, with respect to the 88-7-13, this
9 7-13-88, that is a second request; is that
10 right?
11 A. Yes.
12 Q. What was he requesting in '87 and '88,
13 were they two separate increases?
14 A. I don't know.
15 Q. You were on the job at that time, were
16 you not?
17 A. Yes, but I wasn't the on scene
18 coordinator.
19 Q. What was being sought to address public
20 health issues with respect to ceiling increases,
21 what was done?
22 MR. TENENBAUM: Objection. No foundation.
23 A. I would have to look at it.
24

1 BY MR. KARAGANIS:
2 Q. Why don't you look at those two
3 memoranda, please, bring them out.
4 You have pointed me to the December
5 '87, December 3, '87.
6 Is this the July 13, '88 one?
7 A. That should be the next document.
8 Q. Okay.
9 Directing your attention to the July
10 13, '88 and the December 3, '87 documents, did
11 you have a hand in preparing them?
12 A. No.
13 Q. Did you have any discussions with the
14 staff who did prepare them for Mr. Adamkus?
15 A. Not regarding those memorandums. No.
16 Q. Did you have any discussions with the
17 staff who did prepare them with regard to what
18 work was needed at the site?
19 A. You mean regarding the work that was
20 going to be done under the action memoranda?
21 Q. Regarding any work that was needed to
22 protect public health at the Midco II site.
23 MR. TENENBAUM: Objection. Seeks a legal
24 conclusion.

1 A. Yes.
2 BY MR. KARAGANIS:
3 Q. With whom did you have such
4 discussions?
5 A. Len Zintak.
6 Q. Is she the person who prepared the
7 memorandum for Mr. Adamkus?
8 A. I don't know, it is a he. L-e-n is his
9 first name. Zintak. Z-i-n-t-a-k.
10 Q. Is the second. L-e-n?
11 A. That is, his first name is Len. His
12 last name is Zintak. Z-i-n-t-a-k.
13 Q. What is his position?
14 A. He is an on scene coordinator.
15 Q. Is he currently the on scene
16 coordinator for the Midco II site?
17 A. I don't think there is an assigned on
18 scene coordinator now, except for the completion
19 of the OSC report.
20 Q. Has the completion of the OSC report
21 been done for the second removal action?
22 A. No, it hasn't.
23 Q. Did the April '84 and December '84
24 removal actions completely address the imminent

1 and substantial endangerment found at Midco II
2 by Mr. Adamkus in 1983?
3 MR. TENENBAUM: Objection. Calls for a
4 legal conclusion, expert testimony and is vague
5 and ambiguous.
6 BY MR. KARAGANIS:
7 Q. Go ahead.
8 MR. TENENBAUM: And also object to the
9 extent it seeks discovery on record issues.
10 BY MR. KARAGANIS:
11 Q. Go ahead.
12 A. Well, if you read the document, it
13 identifies groundwater and soil contamination,
14 and in 19 -- the removal actions did not
15 investigate or remove all the groundwater or
16 soil contamination.
17 Q. So would it be a fair statement, then,
18 we went through this before, that in 1983 you
19 had contamination of the saturated and
20 unsaturated zone, and you are saying that the
21 two removal actions did not address the soil,
22 all of the soil and water contamination that was
23 identified in the '83 endangerment assessment?
24 A. Yes. Although, the full extent of

1 subsurface soil and groundwater contamination
2 hadn't been defined in 1983.
3 Q. All right.
4 But it was known in 1983, was it not,
5 that the soil was contaminated and the
6 groundwater was contaminated?
7 MR. TENENBAUM: Asked and answered
8 BY MR. KARAGANIS:
9 Q. Isn't that correct?
10 A. Yes.
11 It determined that there was some
12 groundwater and soil contamination.
13 Q. And that groundwater and soil
14 contamination was part of the basis for the
15 endangerment determination made in December of
16 '83 , isn't that right?
17 MR. TENENBAUM: Same objections as before,
18 that was asked and answered and objected to
19 before.
20 Can we move on to something new? I
21 think I must have even instructed him.
22 MR. KARAGANIS: No, you didn't.
23 MR. TENENBAUM: We determined that he said
24 he didn't know the answer to that.

1 MR. KARAGANIS: Yes, he did. Please don't
2 coach him.
3 MR. TENENBAUM: You ask him a question
4 three times. I don't think it is fair.
5 MR. KARAGANIS: Please don't coach him.
6 Q. Go ahead.
7 A. What was the question again?
8 Q. The presence of contaminants in the
9 soil and groundwater in the saturated and
10 unsaturated zones of the Midco II site was part
11 of the basis for the finding of endangerment by
12 Mr. Adamkus in December of '83, isn't that
13 right?
14 MR. TENENBAUM: Same objections as earlier.
15 A. It was as I stated before, the
16 conclusion was -- Mr. Adamkus concluded that
17 there was an imminent or may be an imminent and
18 substantial endangerment existing at the site.
19 And that information included information on
20 groundwater and soil contamination.
21 Q. All right.
22 When you say groundwater, that is water
23 and soils that exist in the saturated zone, as
24 well as the unsaturated zone; isn't that right?

A. The groundwater would be in the saturated zone, yes.

Q. There was concerns for soils in the saturated zone as well; isn't that right?

A. I am not sure whether there was soil samples in the saturated zone or not.

MR. KARAGANIS: All right.

Why don't we take a break at this point for lunch.

MR. TENENBAUM: Okay.

MR. KARAGANIS: Come back at 1:30.

(Whereupon a recess was taken until 1:30 o'clock p.m. of the same day.)

1 IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
2 HAMMOND DIVISION

3 UNITED STATES OF AMERICA,)
)
4 Plaintiff,)
)
5 vs.) Civil Action
) No. H-79-556
6 MIDWEST SOLVENT RECOVERY INC.;) Third-Party
MIDWEST INDUSTRIAL WASTE DISPOSAL) Complaint
7 COMPANY, INC.; INDUSTRIAL TECTONICS,)
INC.; V & E CORPORATION; ERNEST DE)
8 HART; EDWARD D. CONLEY; HELGA C.)
CONLEY; LOVIE DE HART; CHARLES A.)
9 LICHT; DAVID E. LICHT; DELORES LICHT;)
EUGENE KLISIAK; JEANETTE KLISIAK;)
10 LUTHER G. BLOOMBERG; ROBERT J. DAW-)
SON, JR.; JOHN MILETICH; MARY)
11 MILETICH; PENN CENTRAL CORPORATION;)
INSILCO CORPORATION; RUST-OLEUM, INC.;)
12 ZENITH RADIO CORPORATION; STANDARD T)
CHEMICAL COMPANY, INC.; AMERICAN CAN)
13 COMPANY, INC.; PRE FINISH METALS, INC.;)
PREMIER COATINGS, INC.; MOTOROLA, INC.;)
14 and DESOTO, INC.;)
)
15 Defendants.)
---)
16)
AMERICAN CAN COMPANY, INC.,)
17 DESOTO, INC., INSILCO CORPORATION,)
MOTOROLA, INC., PRE FINISH METALS,)
18 INC., PREMIER COATINGS, INC.,)
RUST-OLEUM, INC., STANDARD T)
19 CHEMICAL COMPANY, INC.,)
ZENITH RADIO CORPORATION, JOHN)
20 MILETICH, MARY MILETICH and THE)
PENN CENTRAL CORPORATION,)
21)
Third-Party Plaintiffs,)
22)
vs.)
23)
ACCUTRONICS, ACTIVE SERVICE CORP.,)
24 AMERICAN NAMEPLATE & DECORATING CO.,)

1 AMERICAN PRINTER & LITHOGRAPHER CO.,)
AMERICAN RIVET COMPANY, APECO,)
2 APPROVED INDUSTRIAL REMOVAL, INC.,)
ARMOUR PHARMACEUTICAL, ARTISAN HAND)
3 PRINTS, ASHLAND CHEMICAL CO.,)
AVENUE TOWING COMPANY, BARR &)
4 MILES, INC., BELDEN ELECTRICAL)
PRODUCTS DIV. OF COOPER INDUSTRIES,)
5 INC., BRETFORD MANUFACTURING, INC.,)
BUTLER SPECIALTY COMPANY, INC.,)
6 BY PRODUCTS MANAGEMENT, CALUMET)
CONTAINER, CARGILL, INC.,)
7 CHEMALLOY DIVISION OF FISHER- CALO)
CHEMICAL CO., CHICAGO ETCHING CORP.,)
8 CHICAGO NAMEPLATE COMPANY,)
CHICAGO ROTOPRINT CO.,)
9 C & C INDUSTRIAL MAINTENANCE CORP.,)
CITY OF GARY, INDIANA, C.P. CLARE)
10 DIVISION OF GENERAL INSTRUMENTS)
CORP., C.P. HALL CO.,)
11 C.P. INORGANICS, COMMANDER PACKAGING,)
CONNOR FOREST INDUSTRIES, CONSERVA-)
12 TION CHEMICAL, CONSUMERS PAINT)
FACTORY, INC., CONTINENTAL)
13 WHITE CAP DIVISION OF CONTINENTAL)
CAN COMPANY, CONVERSIONS BY GERRING,)
14 COUNTY OF DU PAGE, ILLINOIS,)
CRONAME, INC., CROWN CORK & SEAL)
15 CO., INC., CULLIGAN INTERNATIONAL)
COMPANY, CULLIGAN WATER CON-)
16 DITIONING, INC., FRANK J. CURRAN,)
CUSTOM METALS PROCESSING,)
17 DAP, INC. OF BEECHAM COSMETICS,)
DAUBERT CHEMICAL COMPANY,)
18 DEUBLIN COMPANY, DOBSON CONSTRUCTION)
INC., DUO FAST CORPORATION, DU-TONE)
19 CORP., HAROLD EGAN, ERCO HOUSEWARE)
CO., EL-PAC, INC., EMBOSOGRAPH DIS-)
20 PLAY MFG. CO., ESS KAY ENAMELING, INC.,)
ETHICON, INC., FELT PRODUCTS MFG. CO.,)
21 FLINT INK CORP., FURNAS ELECTRIC)
CO., GEARMASTER DIVISION, EMERSON)
22 ELECTRIC, THE GILBERT & BENNETT)
MFG. CO., GLD LIQUID DISPOSAL,)
23 HENRY PRATT COMPANY, J.M. HUBER)
CORPORATION, HYDRITE CHEMICAL CO.,)
24 INTAGLIO CYLINDER SERVICE, INC.,)

1 JOHNSON & JOHNSON, J & S TIN MILL)
PRODUCTS, KNAACK MFG. CO., LANSING)
2 SERVICE CORPORATION, LAUTTER)
CHEMICAL, LIQUID DYNAMICS,)
3 LIQUID WASTE, INCORPORATED,)
STEVE MARTEL, MASONITE CORPO-)
4 RATION, McWHARTER CHEMICAL CO.,)
METAL RECLAIMING CORPORATION,)
5 METROPOLITAN CIRCUITS,)
MIDWEST RECYCLING COMPANY, MONTGOMERY)
6 TANK LINES, MORTON THIOKOL INC.,)
MR. FRANK, INC., NAMSCO, INC.,)
7 NATIONAL CAN CORPORATION, NAS-DAR CO.,)
NUCLEAR DATA, INC., PPG INDUSTRIES,)
8 INC., PASLODE COMPANY, PIERCE & STEVENS)
CHEMICAL CORP., PIONEER PAINT PRODUCTS,)
9 PREMIER PAINT CO., PYLE-NATIONAL CO.,)
R-LITE, REFLECTOR HARDWARE CORP.,)
10 REGAL TUBE, RELIANCE UNIVERSAL, INC.,)
RICHARDSON GRAPHICS, JOHN ROSCO,)
11 ROZEMA INDUSTRIAL WASTE, ST. CHARLES)
MANUFACTURING, SCHOLLE CORPORATION,)
12 SCRAP HAULERS, SHERWIN WILLIAMS)
COMPANY, SHELD COATINGS, INC.,)
13 SIZE CONTROL COMPANY, SKIL CORPORA-)
TION, SPECIAL COATINGS CO.,)
14 SOUTHERN CALIFORNIA CHEMICAL,)
SPECIALTY COATINGS, INC.,)
15 SPOTNAILS, INC., STAR TRUCKING, STERN)
ELECTRONICS, INC., JOE STRAUSNICK,)
16 STUART CHEMICAL & PLAINT, INC.,)
SUMMER & MACK, SUN CHEMICAL,)
17 SYNTECH WASTE TREATMENT CENTER,)
T.R.C., TREPACK, INC., ALFRED TENNY,)
18 THIELE-ENGDAHL, INC., THOMPSON)
CHEMICALS, TIFFT CHEMICALS,)
19 TOUNRY DISPOSAL, TRIPLE S. ETCHANTS,)
UNIROYAL, INC., UNITED RESIN AD-)
20 HESIVES, INC., U.S. ENVELOPE, U.S.)
SCRAP AND DRUM, U.S. STEEL CORP., UNI-)
21 VERSAL RESEARCH LABORATORIES, INC.,)
UNIVERSAL TOOL & STAMPING COMPANY,)
22 VANDER MOULEN DISPOSAL, VELSICOL)
CHEMICAL CORP., VICTOR GASKET)
23 DIVISION OF DANA CORPORATION,)
WARNER ELECTRIC BRAKE & CLUCH CO.,)
24 WARWICK CHEMICAL, WASTE RESEARCH &)

1 RECYCLING, XEROX CORPORATION, and)
other unidentified persons,)
2)
Third-Party Defendants.)
3
4
5
6
7
DEPOSITION OF RICHARD E. BOICE
8
9 August 21, 1990
10
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22
23
24

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4
5 The continued deposition of RICHARD EDWIN
6 BOICE, called for examination by the Defendants,
7 pursuant to notice and pursuant to the
8 provisions of the Federal Rules of Civil
9 Procedure of the United States District Courts,
10 pertaining to the taking of depositions for the
11 purpose of discovery, taken before Arnold N.
12 Goldstine, a Notary Public and Certified
13 Shorthand Reporter within and for the County of
14 Cook and State of Illinois, at 227 West Monroe
15 Street, Chicago, Illinois, on August 21, 1990,
16 commencing at the hour of 1:30 o'clock p.m.
17
18
19
20
21
22
23
24

1 APPEARANCES:

2

3 Mr. Alan S. Tenenbaum
4 Trial Attorney
Environmental Enforcement Section
5 Land & Natural Resources Division
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6 P. O. Box 7611
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7 Washington, D. C. 20044

8 -and-

9 Mr. Michael R. Berman
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10 Solid Waste & Emergency Response Branch
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11 Region V
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12 Chicago, Illinois 60604

13 -and-

14 Peter W. Moore
Assistant Regional Counsel
15 U.S. Environmental Protection Agency
Region V
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230 South Dearborn Street
17 Chicago, Illinois 60604

18 appeared on behalf of Plaintiff,
United States of America;

19

20

21

22

23

24

1 APPEARANCES (CONTINUED):

2

Mr. Carl B. Hillemann and
3 Ms. Jacqueline Vidmar
Sonnenschein Nath & Rosenthal
4 One Mercantile Center
Suite 2600
5 St. Louis, Missouri 63101

6 appeared on behalf of
Desoto, Inc.;

7

8

Mr. Joseph V. Karaganis
9 Karaganis & White, Ltd.
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10 Chicago, Illinois 60610

11 appeared on behalf of
American Can Company, Inc.;

12

13

Mr. James T. J. Keating
14 Law Offices of James T. J. Keating, P.C.
Printers Row
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appeared on behalf of
17 Premier Coatings, Inc.;

18

19

Ms. Linda M. Bullen
20 McDermott, Will & Emery
227 West Monroe Street
21 Chicago, Illinois 60606-5096

22 appeared on behalf of Standard T
Chemical Company;

23

24

1 APPEARANCES (CONTINUED):

2

3 Mr. Ralph W.F., Lustgarten and
Mr. John R. Adams
4 Taylor, Miller, Sprowl, Hoffnagle &
Merletti
5 33 North LaSalle Street
Chicago, Illinois 60602-2602

6

7 appeared on behalf of Third-
Party Plaintiffs Desoto, et al.

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1 RICHARD EDWIN BOICE,
2 having been previously duly sworn,
3 was examined and testified further as follows:
4 DIRECT EXAMINATION
5 (CONTINUED)
6 BY MR. KARAGANIS:
7 Q. Let's go back on the record.
8 Just for the record would you mark this
9 as No. 57 for identification.
10 (The document above-referred to
11 was marked Boice Deposition
12 Exhibit No. 57 for identification.)
13 MR. TENENBAUM: Off the record for a second.
14 (Discussion had off the record.)
15 MR. KARAGANIS: Let the record reflect that
16 Boice Deposition Exhibit No. 57 is a list of
17 documents that we have extracted from Boice
18 Deposition Exhibit No. 56, appendices C-I and
19 C-II.
20 And we have had a paralegal go through
21 these and mark, and you will see the shaded
22 marked documents that do not appear to be in the
23 indices contained in Boice Deposition Exhibit
24 No. 3.

1 You asked what documents, a list of
2 documents that do not appear to be in the
3 record. Certainly the documents that we have
4 marked do not appear to be in the record.
5 I would ask that Mr. Boice not during
6 this deposition but take the time to go through
7 and identify which documents in Boice Deposition
8 Exhibit No. 57 and in 56 are not in Boice
9 Deposition Exhibit No. 3.
10 MR. TENENBAUM: 57 and what?
11 MR. KARAGANIS: 56. Are not in Boice
12 Deposition Exhibit No. 3.
13 Q. Mr. Boice, turning to Midco I, which is
14 the December 22 endangerment, December 22, 1983
15 endangerment assessment and finding.
16 Did the finding as to Midco I and the
17 underlying endangerment assessment also involve
18 contamination in the saturated and unsaturated
19 zones of Midco I?
20 MR. TENENBAUM: Same objections as earlier.
21 A. I will have to read it over.
22 BY MR. KARAGANIS:
23 Q. Please take your time.
24 Have you read it?

A. No.

What was your question?

Q. Is there a pending question?

(The record was read.)

A. Yes.

Q. Would it be correct, then, that the Agency was aware in 1983 that the soil and water conditions in the saturated and unsaturated zones of Midco I represented an imminent and substantial endangerment to the environment?

MR. TENENBAUM: Same objections as earlier.

A. I think the statement is not that they present, that they may present an imminent and substantial endangerment to the public health and the welfare and the environment.

BY MR. KARAGANIS:

Q. From a technical standpoint, without legal interpretation, while subsequent studies have expanded the volume of data that is available, the EPA knew in 1983 that the groundwater and soils in the saturated and unsaturated zone were contaminated, did they not?

MR. TENENBAUM: Same objection.

1 A. Yes.
2 BY MR. KARAGANIS:
3 Q. And one of the bases of the 1983 order
4 was to protect people -- I am sorry, the 1983
5 determination, was to protect people who might
6 come into contact with those contaminants, was
7 it not?
8 MR. TENENBAUM: Same objection. Groundwater
9 and soil?
10 MR. KARAGANIS: Yes.
11 A. Well, the 1983 endangerment assessment
12 states that they determined that there was --
13 may be an imminent and substantial endangerment
14 and, therefore, they recommended concurrence
15 with the civil referral under Section 106 to the
16 Department of Justice to order investigation of
17 the full extent of the contamination at the
18 site, including the subsurface soils and the
19 groundwater.
20 Q. Now, the last time we talked, you
21 mentioned a remedial action master plan done for
22 Midco I, a so-called RAMP, do you remember that?
23 A. Yes.
24 Q. Was there a RAMP done for Midco II?

1 A. No. No, there wasn't.
2 Q. Last time we discussed an ATSDR report
3 for Midco I. Was there an ATSDR report for
4 Midco II?
5 A. Yes.
6 Q. All right.
7 Would you find it, please, in the
8 record?
9 Did you find it?
10 A. Not yet.
11 Q. Now, you have identified for the record
12 a document entitled, "Health assessment for
13 Midwest Industrial Disposal Company, Inc. (Midco
14 II site) Gary, Indiana, December 1, 1988."
15 I am going to have it marked and
16 copied so that we can both discuss it.
17 Mr. Boice, are you familiar with where
18 various soil samples were taken at the Midco I
19 and Midco II sites?
20 A. Yes.
21 Q. And would you describe what procedures
22 were used for soil samples at the Midco I and
23 Midco II sites?
24 MR. TENENBAUM: At what time?

1 MR. KARAGANIS: To his knowledge, at any
2 time.
3 A. Which soil samples are you referring
4 to?
5 Q. Well, why don't you list the categories
6 of soil samples, say the RI for one, the
7 remedial investigation soil samples. But, if
8 there are other categories of samples at either
9 of the sites we should know.
10 Let's take the remedial investigation
11 soil samples. Are there any other categories
12 beyond the remedial investigation?
13 A. There were soil samples collected by
14 Ecology & Environment that went into the -- into
15 the hydrogeological report.
16 Q. Okay.
17 A. And I think there was even some soil
18 sampling before that to sample wastes that were
19 on the surface of the soil.
20 Q. Let's take, did E&E do hydrology
21 reports on both sites?
22 A. Yes.
23 Q. Okay.
24 You say they were waste samples taken

1 at the surface. All right. Anywhere else, to
2 your knowledge?
3 A. You mean during E&E's hydrogeologic
4 report?
5 Q. During any studies.
6 MR. KEATING: You mean up to and including
7 today?
8 MR. KARAGANIS: Yes.
9 A. Okay.
10 E&E's study included sampling of
11 putting in a few wells around the site. They
12 took some soil boring samples, I think.
13 And they took a few samples, collected
14 a few samples in the ditch on the north end of
15 the site. And I would have to look up, that is
16 all I can think of.
17 Q. When you say took samples in the ditch.
18 Is there a distinction made between soil samples
19 and sediment samples?
20 A. If you want to, you can distinguish
21 between those, yes, different types of soils.
22 Q. The ones they took in the ditch, were
23 they sediment samples or did they go down into
24 the soil matrix?

1 A. There would be considered sediments.
2 Q. All right.
3 What other soil samples were taken to
4 your knowledge?
5 A. How are you defining soil samples?
6 Q. Any collection of soil for either
7 geologic analysis or chemical analysis.
8 MR. KEATING: You are talking about boring
9 maybe?
10 MR. KARAGANIS: No. Let him answer.
11 A. Including sediment samples?
12 Q. Including sediments.
13 The sediment samples refer to the
14 ditch, do they not, and its banks?
15 A. Yes.
16 Q. Okay.
17 A. Generally.
18 Q. Are there any other sediment samples?
19 A. Not that I can think of. No.
20 Q. Apart from sediment samples, I am now
21 referring to surface and subsurface soil samples
22 on and around the Midco I or Midco II sites.
23 A. Not including sediment samples?
24 Q. That's correct.

1 MR. TENENBAUM: For the record, the witness
2 is answering this line of questioning and it is
3 my understanding in his individual capacity, not
4 as a designee of the Agency.
5 I don't remember any request for
6 designation of a witness on sampling. So it is
7 only whatever he knows as an individual.
8 BY MR. KARAGANIS:
9 Q. Go ahead.
10 A. Well, not including sediment samples.
11 There were some samples collected by E&E,
12 subsurface soils. There was -- then in the
13 remedial investigation, there were samples of
14 the soils.
15 Q. When you say collected by E&E, was that
16 part of their hydrogeologic study?
17 A. Yes. There was also subsequent
18 sampling by them.
19 Q. Okay.
20 A. That I think included -- I know it
21 included the ditch. I'm not sure whether it
22 included a few other surface soil samples or
23 not.
24 Q. All right.

1 A. There were samples collected during the
2 remedial investigation, that included over one
3 hundred soil boring samples.
4 Each of those samples were evaluated
5 for the soil classification and some of them
6 were screened using -- with a photo ionization
7 detector. Some of them were also screened using
8 a field gas chromatograph.
9 And out of the total number, there
10 were, I think, 20 or 30 sent to an off-site lab
11 for a full scan. In addition to that, there
12 were test pits excavated into the site and
13 samples were collected from the test pits that
14 included soils and contaminated soils and
15 sometimes the waste material.
16 Q. Okay.
17 Now, as to the soil borings that went
18 off for chemical analysis.
19 A. Uh-hum.
20 Q. Are those borings identified in the RI,
21 the ones that were sent off?
22 A. Yes.
23 Q. Where are they identified in the RI?
24 A. You could find it in Appendix A.

1 Q. Appendix A.
2 Let me show you the remedial
3 investigation Appendix A for Midco I, where are
4 the soil borings that went off for chemical
5 analysis?
6 A. They are listed here in Appendix A
7 under soil, phase I.
8 Q. All right.
9 Now, can you tell me where in Appendix
10 A or anywhere else in the RI the depth of the
11 soil sample is indicated?
12 A. Well, I know they are identified in
13 other places. But, it is also identified in
14 Appendix A under the well location, the depth is
15 identified.
16 Q. Well, the depth of the well is
17 identified?
18 A. No, the depth of the sample is
19 identified under the well. A-30, 26 feet, B-30,
20 26 feet.
21 Q. He is referring to Appendix A, he is
22 referring to a printout that gives well number
23 and depth. The depth he is referring to is the
24 depth of the soil sample?

A. Yes.

Q. Okay.

With respect to that soil sample, what information tells us whether that is above or below the groundwater level?

A. That information is not provided in Appendix A.

Q. Is it provided anywhere else?

A. Yes.

You could look up the depth of the watertable at that location and see whether it would be above or below the watertable.

Q. Where is that contained?

A. Let's see, probably chapter 4 of the remedial investigation report.

Q. Does that have a watertable level for each of the borings?

A. I believe it does, yes.

Q. All right.

Let me show you, let me stay with chapter 4 for Midco I.

A. By the way, besides the remedial investigation and the hydrogeologic report by Ecology & Environment, there were also soil

1 samples collected for the removal action at
2 Midco II.
3 Q. Okay.
4 Now, were those subsurface samples?
5 A. It included subsurface samples.
6 Q. How deep?
7 A. I would have to look it up.
8 Q. Let's stay with this one right now.
9 A. Okay. In table 4-1.
10 Q. Now, table 4-1 in the Midco I ROD, is
11 that what you are referring to?
12 A. Yes.
13 Q. Okay.
14 What does table 4-1 give you?
15 A. It gives Midco I monitoring well data,
16 including the watertable height during the four,
17 five times it was measured.
18 Q. I guess what I am asking for is what
19 was the watertable's height at the time you took
20 the soil sample?
21 MR. TENENBAUM: You, you mean he or --
22 MR. KARAGANIS: The Agency.
23 MR. TENENBAUM: Hold it a second.
24 A. Geosciences collected the water sample.

1 BY MR. KARAGANIS:
2 Q. I am sorry.
3 What was the watertable height at the
4 time Geoscience's collected the sample?
5 A. Well, it was collected -- the soil
6 samples?
7 Q. Yes.
8 A. Okay. That might be in a different
9 table.
10 Q. Okay. I have got the other appendices.
11 MR. TENENBAUM: You can go on answering this
12 line of questioning, but I do want to object on
13 the ground of no foundation for this line of
14 questions.
15 BY MR. KARAGANIS:
16 Q. While you are doing that, would it be a
17 fair statement, Mr. Boice, that the elevation of
18 the watertable varies on given days when you
19 measure it?
20 A. It varies to some degree, yes.
21 MR. TENENBAUM: Hold it a second.
22 Objection to the extent it calls for
23 expert testimony. Objection to the extent you
24 are asking -- when you say you, I don't know if

1 you mean he or the Agency did this sampling or
2 not.
3 BY MR. KARAGANIS:
4 Q. If Hans, the little Dutch boy, went out
5 and took a sample of the groundwater on any
6 given day, would it vary?
7 You don't need to be an expert to
8 answer the question.
9 MR. TENENBAUM: Same objection.
10 A. It would vary to some degree.
11 Okay. You can tell conditions of the
12 samples and generally whether they were above or
13 below the watertable based on Appendix B for the
14 time when the soil samples were collected.
15 Q. Okay.
16 How are you able to determine that?
17 A. For example, for monitoring well 1, 0
18 to 2, it identifies fill and sand, rocks and so
19 forth; 2 to 4, sand, gravel. Then it says water
20 at 3.7 feet. So that there is the watertable at
21 3.7 feet.
22 Q. Okay.
23 A. For monitoring well 2, 3.8 feet.
24 Q. Appendix B are the borings that were

1 the basis for the soil samples?
2 A. Yes. They were the soil boring
3 samples.
4 Q. Would you mark these two documents as
5 58 and 59.
6 (The documents above-referred to
7 were marked Boice Deposition
8 Exhibit Nos. 58 and 59 for
9 identification.)
10 Mark these documents as 60 and 61.
11 (The documents above-referred to
12 were marked Boice Deposition
13 Exhibit Nos. 60 and 61 for
14 identification.)
15 I reserve the right to withdraw these
16 and substitute a clean one. These are my marked
17 copies.
18 MR. TENENBAUM: You are going to provide the
19 reporter with a copy?
20 MR. KARAGANIS: Clean copies, yes.
21 Q. Mr. Boice, directing your attention to
22 what have been marked as Boice Deposition
23 Exhibit 60 and 61 for identification.
24 60 is the public comment feasibility

1 study for the Midco I site. 61 is the public
2 comment feasibility study for the Midco II site.
3 Are you familiar with those documents?
4 A. Yes.
5 Q. Did EPA approve these documents?
6 A. Except for the solidification
7 treatability study which hadn't been completed.
8 Q. So other than the fact that a
9 solidification treatability study hadn't been
10 completed, Exhibits 60 and 61 were approved by
11 EPA?
12 A. We accepted them. I'm not sure we
13 approved them.
14 MR. TENENBAUM: Again for the record, we are
15 assuming for purposes of the question that
16 Exhibits 60 and 61 are the final versions of the
17 FS.
18 The witness has not looked at them.
19 MR. KARAGANIS: Again, they are subject to
20 if you have any objection to the accuracy of the
21 documents, we copied what were given to us.
22 These are the same documents that went to --
23 A. Your contractor gave them to you, not
24 us.

1 MR. TENENBAUM: The witness hasn't reviewed
2 them today.
3 MR. KARAGANIS: Excuse me just one second.
4 I want to take a break for a minute, if
5 we can.
6 (Whereupon a short recess was had.)
7 Let's identify for the record Exhibit
8 59 is a schematic graphic entitled, "Area of
9 remedial activity Midco I," and Exhibit 58 is a
10 schematic graphic entitled, "Geologic overview
11 Midco I."
12 Q. Mr. Boice, we have had some discussions
13 earlier, and we had some discussions with Mr.
14 Finch, off the record with Mr. Finch, regarding
15 the tables in the Midco I and Midco II
16 feasibility studies.
17 I wonder for your ease of use if you
18 could get out the FS's from the record so that
19 you can refer to them.
20 Mr. Boice, you had previously testified
21 that one of your concerns was the fact that
22 certain statements were made in table I believe
23 it was 4-2 of the Midco feasibility studies and
24 that those were inconsistent with subsequent

1 statements made by the consultant for the
2 defendants, ERM?
3 A. That's correct.
4 Q. Was it just table 4-2 or did it include
5 4-3 or 4-20?
6 MR. TENENBAUM: The witness has already
7 testified at great length in response to
8 questions of multiple questioners about the
9 issue of impression of bad faith.
10 I thought that we had agreed that
11 today's continuation of the deposition would
12 not --
13 MR. KARAGANIS: This is simply to develop a
14 transition. I am not going to dwell on it at
15 any length.
16 MR. TENENBAUM: Try to keep it short.
17 Your question when you referred to
18 those tables, do you mean to state -- what was
19 it that you were referring to, the question of
20 bad faith?
21 MR. KARAGANIS: Yes.
22 MR. TENENBAUM: You are just referring to
23 tables in the fs?
24 BY MR. KARAGANIS:

1 Q. It is my recollection, Mr. Boice, that
2 it was your testimony the tables in the FS are
3 identical both in the Midco I and the Midco II
4 FS, the summary of remedies?
5 A. They are very close to being identical,
6 if they are not.
7 MR. TENENBAUM: Your question then about the
8 other two tables is what?
9 MR. KARAGANIS: My question --
10 MR. TENENBAUM: Whether they played a role
11 in his bad faith impression?
12 MR. KARAGANIS:
13 Q. Mr. Boice had previously referred to a
14 statement in table 4-2 which said and I quote --
15 table 4--- I am sorry, it must be 4-20, it says
16 in the transcript 4-2.
17 Directing your attention to table 4-20,
18 Mr. Boice, I believe you had referenced a
19 statement on table 4-20 for alternative 4A, 4B
20 and 4C, the statement that says:
21 "Cleanup action
22 levels (CAL's) for soil will
23 not be met as soil remains
24 without treatment."

1 I believe you referenced for
2 alternative 7, the statement that, "Cleanup
3 action levels for soil above groundwater will be
4 met," as an example of where the consultant for
5 the defendants had said that the pump and treat
6 remedy would not meet the CAL's for soil but
7 that the EPA prescribed remedy would.
8 Mr. Boice, I would like you to take a
9 look at Deposition Exhibit No. 58, which has
10 been identified as a geologic overview of the
11 Midco I site.
12 MR. TENENBAUM: Which has been identified by
13 who?
14 MR. KARAGANIS: By me. I drew it.
15 MR. TENENBAUM: You drew it.
16 MR. KARAGANIS: Okay.
17 Q. With respect to the geologic overview,
18 are the dimensions there a fair representation
19 of the dimensions that you testified to earlier
20 with respect to the clay layer, the sand layer
21 being roughly 30 feet deep, the clay layer being
22 roughly 110, I think you said 90, did you not,
23 for Midco I?
24 A. For Midco I, I think I said a hundred.

1 Q. A hundred, okay.
2 So subject again to the documents
3 confirming your estimate, your best recollection
4 is that the silty clay loam layer at Midco I is
5 roughly 100 feet thick?
6 A. To the best of my recollection, it is
7 about 100 feet thick.
8 Q. Okay.
9 Would it be fair to say, referring
10 again to Boice Deposition Exhibit 58, that the
11 sandy layer that you referred to is roughly 30
12 feet thick?
13 MR. TENENBAUM: Same objections as earlier
14 this morning.
15 A. Yes. Although, this doesn't show the
16 refuse and fill material on the top.
17 BY MR. KARAGANIS:
18 Q. Okay.
19 When you refer to the depth of the
20 layer of the sandy layer, are there drawings
21 that also slow the depth of the refuse and fill
22 material?
23 A. You mean in the feasibility study?
24 Q. In any of the documents in the record.

1 A. Not the depth, no. Just, well, no, not
2 the depth.
3 Q. Okay.
4 What data exists that shows the level
5 of the fill material on top of the sand layer?
6 A. Well, there is the soil borings, some
7 soil borings went through it. And that would
8 identify the interface between the natural
9 material and the fill, and also some of the test
10 pits went all the way through the fill material
11 to what appeared to be to the natural material.
12 Q. Okay.
13 So that this drawing would have to add
14 in terms of an accurate portrayal of the site, a
15 thickness on top for some fill material that is
16 in there on Midco I?
17 A. Yes.
18 Q. Okay.
19 Would that also be true for Midco II?
20 A. Yes.
21 Q. Okay.
22 And is there an appendix or some
23 specific appendix within either the feasibility
24 study or the remedial investigation which gives

1 you those thicknesses for the fill material?
2 A. You would have to look at the soil
3 boring logs and the test pits diagrams.
4 Q. Okay.
5 When you said previously that the depth
6 to groundwater was on an average of 5 feet at
7 Midco I, was that a depth from the surface of
8 the fill material to the groundwater or from the
9 surface of the sand layer to the groundwater?
10 A. From the surface usually of the fill
11 material, or if it is -- in some portions of the
12 site there are -- I think the natural material
13 is at the surface.
14 Q. All right.
15 A. In other areas it is the fill. So
16 whatever is at the surface to the groundwater.
17 Q. Whatever is at the surface is roughly 5
18 feet above the groundwater at Midco I?
19 A. Something like that, yes.
20 Q. All right.
21 And with respect to the top layer,
22 directing your attention to Boice Deposition
23 Exhibit 59, with respect to the layer above the
24 clay, to accurately portray these, you would

1 have to take roughly the 30 feet of sand plus
2 any fill material that was there; is that right?
3 A. No.
4 I think that would be, in some places
5 the fill material or the natural contours went
6 below the watertable. So there were low areas,
7 and those I think were filled in with waste.
8 So, I don't think it is humped up above the
9 natural contours, it is filled in.
10 Q. The natural contour says from the
11 surface, which includes sand and fill material,
12 roughly zero to 30 feet down to the clay layer,
13 is that right, at Midco I?
14 A. Yes.
15 Q. All right.
16 From the surface of whatever it is,
17 whether it is sand or fill?
18 A. Right.
19 Q. Down to 50 feet for the clay layer; is
20 that right?
21 A. That is approximately correct.
22 Q. Okay.
23 And with respect to the 30 feet, would
24 it be a fair statement that the aquifer runs

1 from the base of the sand layer, namely at 30
2 feet in depth, to about 5 feet below the
3 surface?
4 MR. TENENBAUM: Same continuing objections.
5 A. That is approximately correct.
6 BY MR. KARAGANIS:
7 Q. All right.
8 So again as an approximation, then,
9 that while some of this top feet would have to
10 include fill material that was used to fill the
11 depression, it is a roughly level surface; is
12 that right?
13 A. At Midco I it is, yes.
14 Q. All right.
15 Now, at Midco II, using 59 and 60 as an
16 example, at Midco II I believe you said that the
17 layer above the clay layer was approximately 40
18 to 50 feet?
19 A. To the best of my recollection, that's
20 correct, yes.
21 Q. And I believe you said that the layer
22 above the groundwater table was approximately 10
23 feet?
24 A. Yes.

1 Q. Again, that would be subject to the
2 actual data confirmation?
3 A. Well, you could look in the report and
4 confirm it.
5 Q. Okay.
6 The report would be the remedial
7 investigation report?
8 A. Yes.
9 Q. So other than the adjustment that you
10 would make for the fill area, would it about a
11 fair statement that 59 and 60 are a fair
12 representation of an overview of what
13 conditions, geologic conditions, are at Midco I?
14 MR. TENENBAUM: Objection, no foundation.
15 It seeks expert testimony. Over simplification.
16 BY MR. KARAGANIS:
17 Q. Go ahead.
18 A. You mean 58 and 59, right?
19 Q. 58 and 59, yes.
20 A. It seems reasonable to me, yes.
21 Q. And a similar approximation using the
22 dimensions you gave, again subject to
23 confirmation with the data, could also be done
24 for Midco II; is that right?

1 A. Yes. Although, there may be -- well --
2 Q. What changes would have to be done?
3 A. There may be some gravel lenses in
4 there that may not be completely as uniform an
5 aquifer as it seems to indicate on those
6 diagrams.
7 Q. Okay.
8 By that you mean that the aquifer may
9 be discontinuous?
10 A. No.
11 That, for example, where they put in
12 the pump test at Midco I, they had higher
13 permeability than they expected based on the
14 slug tests.
15 So afterwards Geosciences put a boring
16 in and they found there was a gravel lens at the
17 bottom. They thought that explained the
18 increase in permeability in that area.
19 Q. But the gravel lens does not change the
20 location of the aquifer, does it; it simply
21 provides a medium for the aquifer to move more
22 rapidly than the sand, isn't that right?
23 MR. TENENBAUM: Same continuing objection.
24 A. Right. It shows maybe certain portions

1 of the aquifer might be more permeable than
2 others.
3 BY MR. KARAGANIS:
4 Q. But we are really arguing about sand
5 versus gravel, aren't we?
6 A. Yes.
7 Q. We are talking about a fairly permeable
8 aquifer, are we not?
9 A. Yes.
10 Q. So from the standpoint of showing where
11 the aquifer is, that is an accurate
12 representation of where the aquifer is, is it
13 not?
14 I am referring now to Exhibit 59.
15 MR. TENENBAUM: Same continuing objection.
16 A. Yes. It appears to me to be accurate.
17 BY MR. KARAGANIS:
18 Q. Now, directing your attention to the --
19 I need one further document. Could you get out
20 the public statement? I am sorry, I am trying
21 to remember what you call it again.
22 The public project summary or proposed
23 project summary?
24 A. The project proposed plan?

1 Q. Yes.
2 Q. Mr. Boice, the term cleanup action
3 levels or CAL's is often used throughout the
4 record documents.
5 Are you familiar with that?
6 A. Yes.
7 Q. In developing or doing your work on
8 this project, you have previously referred to
9 the 1985 National Contingency Plan, which I
10 believe was, yes, Exhibit 54.
11 Do you remember the 1985 NCP?
12 A. I know there was one. Yes.
13 Q. Directing your attention to Exhibit 54,
14 Boice Deposition Exhibit 54, is this the NCP
15 that you used in your work in preparing the
16 records of decision for Midco I and Midco II?
17 MR. TENENBAUM: Objection. I can't see how
18 this is relevant to a non-record issue. I am
19 going to have to instruct the witness not to
20 answer.
21 MR. KARAGANIS: He has already testified he
22 prepared them. I just want to make sure which
23 legal document he used.
24 MR. TENENBAUM: He testified that he

1 prepared the NCP.
2 MR. KARAGANIS: No, that he prepared the
3 ROD's. Yes, he did.
4 MR. TENENBAUM: No.
5 I don't know, the record I am sure will
6 speak for itself about what he did.
7 But, the basis for the Agency's
8 decision making in the ROD's, whatever that
9 process was, is, as you know, subject to our
10 motion for protective order.
11 MR. KARAGANIS: I am simply trying to find
12 the law that the Agency operated under.
13 MR. TENENBAUM: That also is a legal
14 question that certainly is not subject to
15 deposition of a non-attorney.
16 MR. KARAGANIS: Alan, he either used the '85
17 NCP or he used the draft '88 NCP. I am simply
18 trying to find out which one he used.
19 MR. TENENBAUM: I am sorry, that is a record
20 issue, how the Agency came to its record of
21 decision.
22 MR. KARAGANIS: You are trying to tell me
23 you won't tell us which regulation you used?
24 MR. TENENBAUM: It is a legal matter. If

1 you want to brief the matter, I am sure we can
2 arrange to do that.
3 MR. KARAGANIS: The witness had to use a
4 certain National Contingency Plan. My question
5 is which National Contingency Plan he used.
6 MR. TRNENBAUM: The witness had to use it in
7 connection with what, in connection with the
8 Agency's selection of remedial action. That is
9 not an issue which you are entitled to take
10 discovery on. It is subject to a record-review
11 issue.
12 MR. KEATING: We already stipulated if it
13 is, you are going to produce him again, right?
14 MR. KARAGANIS: A central issue in the case
15 is consistency with the National Contingency
16 Plan.
17 I am trying to find out which National
18 Contingency Plan the Agency used. I will tell
19 you the record does not say which National
20 Contingency Plan the Agency used, Alan, so I am
21 entitled to find out which one they used.
22 MR. TRNENBAUM: For what purpose?
23 So far your question --
24 MR. KARAGANIS: Consistency with the

1 National Contingency Plan we acknowledge to be
2 an issue in the case.
3 I will tell you, unless you can show me
4 otherwise, the record does not state which
5 National Contingency Plan was used. There
6 happened to be at least two or three different
7 versions that could have been used over the time
8 of this case. I am trying to find out which one
9 is used for the ROD's. It is a simple
10 statement.
11 MR. TENENBAUM: If you are going to insist
12 on pursuing this line of questions, we will have
13 to take a break.
14 I am going to have to confer and
15 consult as to whether or not this could be
16 relevant to any non-record issue.
17 MR. KARAGANIS: I am simply asking which
18 NCP.
19 MR. TENENBAUM: I am going to have to take a
20 break to answer.
21 MR. KARAGANIS: I want an answer. Take a
22 break.
23 MR. TENENBAUM: I don't see how this could
24 possibly be relevant to any non-record issue. I

1 don't see it offhand. I will make and inquiry
2 and see if it could be relevant.
3 MR. KARAGANIS: I am just keeping this on
4 the record. I will be amused to see if the
5 government refuses to identify which NCP it
6 used.
7 (A short recess was taken.)
8 MR. KARAGANIS: Back on the record, Alan.
9 MR. TENENBAUM: Yes.
10 I will allow the witness to answer
11 subject to my objections, but I would request
12 that you at least try and break down your
13 question as to which part of the various
14 projects or costs or work you are talking about,
15 because there may be a different answer. It is
16 a compound question.
17 I don't think it is fair to say which
18 NCP did you use in this case. When?
19 MR. KARAGANIS: I didn't ask him that. I
20 asked him which NCP did he use in preparing the
21 records of decision.
22 MR. TENENBAUM: You want to know in
23 preparing the records of decision, looking only
24 at work he did in 1989?

1 MR. KARAGANIS: When he prepared the record
2 of decision --
3 MR. TENENBAUM: As you know, the --
4 MR. KARAGANIS: -- in 1989.
5 MR. TENENBAUM: The record of decision came
6 out in '89. I don't know what you mean by
7 preparing. If you just mean the actual document
8 or whether you want -- how far back do you want
9 to go?
10 But, if you want the witness to focus
11 on 1989, then he can answer that question.
12 BY MR. KARAGANIS:
13 Q. Please focus on 1989 when you did the
14 preparation of the ROD's.
15 A. Okay.
16 Well, when the ROD was prepared it was
17 after SARA, the ROD was prepared after SARA was
18 passed. But this National Contingency Plan
19 dated November 20, 1985, of course, is before
20 SARA.
21 So we used this National Contingency
22 Plan along with the SARA law itself and the
23 proposed National Contingency Plan which
24 provided guidance on what we thought the

1 provisions of SARA included.
2 Q. Again, with the opportunity to replace
3 my marked copy with a clean copy, would you mark
4 this as 62.
5 (The document above-referred to
6 was marked Boice Deposition
7 Exhibit No. 62 for identification.)
8 I show you what has been marked as
9 Boice Deposition Exhibit 62, which is the
10 December 21, 1988 proposed National Oil and
11 Hazardous Substances Pollution Contingency Plan
12 or NCP.
13 Is that the proposed version that you
14 used?
15 I will state for the record, Alan, all
16 I want to do is get the December '88 proposed
17 NCP, that was the proposal, you don't have to
18 vouch for the accuracy of the document I am
19 handing to the witness. It is a copy of the
20 Federal Register.
21 MR. TENENBAUM: Is that the only one that
22 was proposed?
23 MR. KARAGANIS: Yes, December 21, '88 was
24 the only one that was proposed. It was then

1 adopted in 1990.
2 MR. TENENBAUM: All right.
3 A. Probably it was, yes.
4 BY MR. KARAGANIS:
5 Q. Now, with respect to CAL's, Mr. Boice,
6 there is a statement in the feasibility study
7 that alternatives 7 and 8 would achieve soil
8 CAL's.
9 Do you know where the soil CAL's are in
10 either the feasibility studies or in the ROD?
11 A. Yes.
12 Q. Where are they located?
13 A. They are in the record of decision.
14 Q. Okay.
15 MR. TENENBAUM: Same continuing objections.
16 BY MR. KARAGANIS:
17 Q. With respect to the record of decision,
18 can you tell me where they are?
19 A. I think it is section 10.
20 Q. Directing your attention -- and I
21 apologize for the dampness of this book, it got
22 caught in the rain -- but, directing your
23 attention to table 18, and if it looks like it
24 is hard to read 18, it is the copy given me by

1 EPA. But, table 18, which is soil cleanup
2 action levels in the Midco II ROD.
3 Are those the soil cleanup action
4 levels to --
5 MR. TENENBAUM: Hold it a second.
6 BY MR. KARAGANIS:
7 Q. Are those the soil cleanup action
8 levels to which you refer when you refer to
9 CAL's in the soil?
10 MR. TENENBAUM: Don't answer yet.
11 Again, I am trying to find some theory
12 that this is relevant to a non-record issue.
13 How is it relevant to a non-record
14 issue?
15 MR. KARAGANIS: It goes straight to three
16 levels: 1, the lack of bad faith on the part of
17 the defendants; 2, the presence of sufficient
18 cause to refuse to comply with the order; and,
19 3, the fact that the order as presently crafted
20 is both internally contradictory, as you will
21 see, and impossible to achieve.
22 And I for one cannot recommend to my
23 client to achieve a physically impossible order.
24 If the witness can show me how it is

1 physically possible to do so, I will certainly
2 come back.
3 But, one of the things that is very
4 clear from the record at this state is that EPA
5 appears to have ordered a remedy that is
6 physically impossible to do. I don't know of
7 any law anywhere that requires parties to do
8 that which is physically impossible, or to
9 suffer penalties therefor.
10 MR. TENENBAUM: Well, it would seem to me
11 that the question of -- this is the first time
12 I have heard this one of a physical
13 impossibility.
14 MR. KARAGANIS: No, it is true.
15 MR. TENENBAUM: I don't recall that being in
16 your supplemental defenses, supplemental
17 interrogatory answers, as to defenses. I don't
18 recall that being in there.
19 It would seem to me, wouldn't that
20 require expert testimony?
21 MR. KARAGANIS: No.
22 This witness -- and he has I think made
23 every attempt to be forthright thus far when you
24 have allowed him to be, subject to your

1 instructions not to answer -- I think this
2 witness is fully capable of identifying the
3 problem.
4 MR. TENENBAUM: Well, I am afraid I will
5 have to instruct the witness not to answer,
6 because I don't see how this is relevant to any
7 non-record issue.
8 MR. KARAGANIS: You are instructing him not
9 to answer whether table 18 of the ROD are the
10 soil clean-up action levels to which he has
11 previously referred in his testimony?
12 MR. TENENBAUM: I objected to that question.
13 MR. KARAGANIS: You allowed a series of
14 questions both by Mr. Finch and myself with
15 respect to soil cleanup action levels coming
16 from the statements that are contained in the
17 feasibility study.
18 I am asking this witness which soil
19 clean-up action levels he is referring to.
20 MR. TENENBAUM: You mean in connection with
21 the impression of bad faith?
22 MR. KARAGANIS: That's correct.
23 MR. TENENBAUM: One second. Off the record
24 for a second.

1 (Discussion had off the record.)
2 Back on the record, then.
3 I will allow the witness subject to my
4 objections to answer the question, his
5 understanding about what alternative 4C, the
6 sentence referring to cleanup action levels for
7 soil, whether that is referring to vis-a-vis the
8 later comments of ERM as it relates to the issue
9 of an impression of bad faith.
10 A. Okay.
11 Cleanup action levels that we are using
12 are defined in section 10 of the ROD.
13 BY MR. KARAGANIS:
14 Q. Why don't you get out your copy so that
15 I can follow mine.
16 A. This is Midco I, right?
17 Q. Get them out for Midco II as well.
18 Rich, before you go to cleanup action
19 levels in the ROD's, the reference in table 4-20
20 is a reference to cleanup action levels, soil
21 cleanup action levels.
22 Are there soil cleanup action levels
23 referred to in the FS?
24 A. Yes.

1 Q. Would you find where the soil cleanup
2 action levels in the FS are identified for Midco
3 I and Midco II?
4 A. These are different from the soil
5 cleanup action levels, as approved by USEPA in
6 the record of decision.
7 A. The soil cleanup action levels used in
8 the feasibility study to estimate the extent of
9 solidification or other type of treatment that
10 would be necessary for the source materials are
11 defined or listed in table 1-7 of the
12 feasibility study.
13 Q. I am sorry, would you repeat his
14 answer, please.
15 (The record was read.)
16 Mr. Boice, you understand the term soil
17 cleanup action level to mean level to which the
18 soil will be cleaned?
19 MR. TENENBAUM: Objection.
20 Are you referring to the feasibility
21 study or the ROD?
22 MR. KARAGANIS: The feasibility study.
23 A. It means generally at some level or
24 concentration that triggers some action by the

1 agency. Usually the definition is defined in
2 the record of decision.
3 Q. How do you understand it to have been
4 used in the FS?
5 A. As I stated before, it was used to --
6 MR. TENENBAUM: Enter an objection.
7 A. -- to put down levels for use in
8 estimating the extent of solidification that
9 would be necessary for the source material.
10 BY MR. KARAGANIS:
11 Q. Without regard to solidification, CAL's
12 are used in evaluating other remedies.
13 Is the soil CAL a concentration of
14 "cleanliness" or cleanup, which is used to
15 evaluate whether a remedy will achieve that
16 level?
17 MR. TENENBAUM: In the FS?
18 MR. KARAGANIS: In the FS?
19 A. No.
20 It was specifically designed to
21 determine, since Dames & Moore were the ones who
22 were pushing for solidification/stabilization.
23 So the cleanup action level certainly for them
24 and also for the Agency meant the extent -- to

1 define the extent of treatment that would be
2 required; that is, the extent of material that
3 would have to be solidified or subjected to soil
4 vapor extraction.
5 That's the same as we defined it in the
6 ROD. It says all subsurface materials affected
7 by the site or by Midco operations that exceed
8 any of the following risk-based levels will be
9 treated. And then it defines risk-based levels.
10 Q. Excuse me.
11 In table 1-7 of the FS, the soil
12 cleanup levels are listed in concentrations per
13 unit of volume, are they not?
14 A. That's correct.
15 That was to define the extent of the
16 area to be solidified.
17 Q. You have answered my question.
18 And those concentrations per unit of
19 volume either represented a certain risk-based
20 level or a background condition, do they not?
21 A. They were determined by either a
22 risk-based level, background condition or a
23 detection limit.
24 Q. So the source of the CAL's was one of

1 three, either risk-based, background, or
2 detection limit?
3 MR. TENENBAUM: In the FS?
4 MR. KARAGANIS: In the FS.
5 A. In the FS, yes.
6 That is basically the same as in the
7 ROD. We also have a risk-based -- we also refer
8 to if constituents are below the background or
9 below the detection limits, they won't be
10 included in the risk calculations.
11 So it takes the background
12 concentrations and the detection limits of the
13 compounds into account.
14 BY MR. KARAGANIS:
15 Q. All right.
16 Now, table 1-7 lists concentrations in
17 micrograms per kilogram, does it not?
18 A. That's correct.
19 Q. Did you ever evaluate whether
20 alternatives 4A through 4H in the FS in table
21 4-20 would meet those concentrations in
22 micrograms per kilogram?
23 A. As I stated before, the concentrations
24 were to define the extent of the treatment, the

1 extent of solidification/stabilization and soil
2 vapor extraction.
3 And so once it is treated, then it has
4 to meet other performance-based standards, not
5 the concentration cleanup action levels.
6 Once it is treated, then it should be
7 in a solidified block and not available for --
8 immediately available for exposure or
9 contamination of the groundwater.
10 Q. Mr. Boice, excuse me. Someone
11 evaluated alternatives 4A through 4C, did they
12 not?
13 MR. TENENBAUM: Same continuing objection.
14 BY MR. KARAGANIS:
15 Q. Go ahead.
16 A. Yes.
17 Q. All right.
18 Did they evaluate alternatives 4A
19 through 4C to determine whether or not those
20 alternatives which do not include solidification
21 would meet the soil CAL's that are shown on
22 table 1-7?
23 A. Yes.
24 Q. And did you make an independent

1 determination as to whether or not 4A through 4C
2 would meet the soil CAL's in concentration shown
3 on page 1-7?
4 MR. TENENBAUM: Same continuing objection.
5 A. We reviewed the report, yes, as well as
6 our contractors, oversight contractors.
7 BY MR. KARAGANIS:
8 Q. Okay.
9 And what was given to you as a reason
10 why the pump and flush or pump and treat would
11 not meet the soil CAL's?
12 MR. TENENBAUM: What was given to him as a
13 reason by ERM?
14 MR. KARAGANIS: By ERM or Dames & Moore.
15 A. Well, for one thing, they didn't
16 propose doing anything. In effect, they didn't
17 propose doing anything to flush the contaminants
18 out of the soils.
19 And it was unrealistic to expect the
20 contaminants in the form they are in and also
21 the fact that many of them are low in
22 solubility, relatively immobile soil matrix to
23 flush out.
24 Also the --

1 Q. Would it be a fair statement that both
2 ERM and their colleagues at Dames & Moore and
3 you agreed that the existing concentrations in
4 the soil would not be reduced to the
5 concentration shown on table 1-7 by a pump and
6 treat approach?
7 A. Yes.
8 Q. Okay.
9 And the analysis was to go from the
10 existing concentrations in the soil to the
11 concentrations shown on 1-7 and see whether or
12 not the proposal would work, isn't that right?
13 MR. TENENBAUM: Same continuing objection.
14 A. I beg your pardon.
15 BY MR. KARAGANIS:
16 Q. The analysis that was undertaken was to
17 see whether or not a pump and treat method would
18 go from the existing concentrations that were
19 found in the RI and reduce those concentrations
20 in the soil down to the concentrations shown on
21 table 1-7; isn't that right?
22 A. Yes.
23 Q. Now, with respect to the alternative
24 number 7, was any analysis made as to whether or

1 not the alternative 7 remedy would reduce the
2 concentrations in the soil from the
3 concentrations found in the RI down to the
4 concentrations shown on table 1-7?
5 MR. TENENBAUM: Same continuing objection.
6 A. The objective was never -- for the
7 solidification was never to meet -- you can't
8 reduce the concentrations, most compounds by
9 solidification.
10 So the objective was to put it into a
11 solidified mass that will remove it from human
12 contact exposure or bio-availability and
13 eliminate or reduce, greatly reduce the
14 permeability of the materials, so it would
15 eliminate the groundwater contamination as well.
16 Q. So it would eliminate groundwater
17 contamination.
18 MR. TENENBAUM: There is no foundation for
19 the impression of bad faith on groundwater
20 contamination, is there?
21 MR. KARAGANIS: Yes.
22 MR. TENENBAUM: There is?
23 MR. KARAGANIS: Sure.
24 MR. TENENBAUM: Is that part of the

impression of bad faith?

MR. KARAGANIS: Let's go on.

MR. TENENBAUM: Hold it a second.

MR. KARAGANIS: I don't have a pending question.

MR. TENENBAUM: No. Your question was on groundwater. That is subject to an instruction not to answer.

MR. KARAGANIS: I didn't ask him about groundwater. To my knowledge, I don't have a pending question. I was about to go on to soils.

MR. TENENBAUM: All right. Then if the question is withdrawn, okay.

BY MR. KARAGANIS:

Q. Would it be a fair statement, Mr. Boice, that alternatives 7 and 8 will result in soil concentrations above and below the groundwater level which will exceed the concentration limits shown in table 1-7 of the FS?

A. No, that is not a fair statement.

MR. TENENBAUM: Same continuing objection.

BY MR. KARAGANIS:

1 Q. Mr. Boice, is it your statement, then,
2 that alternatives 7 and 8 will reduce the
3 concentrations above and below the groundwater
4 to at or below the concentrations shown in table
5 1-7 of the FS for Midco I or the FS for Midco
6 II?
7 MR. TENENBAUM: Same continuing objection.
8 A. I think I stated this before. I will
9 make the same statement again. That certainly
10 Dames & Moore's intent was to solidify, in
11 writing, the feasibility study -- to solidify
12 everything above the cleanup action level.
13 Once it is solidified, then it will be
14 reduced greatly in mobility. It wouldn't cause
15 groundwater contamination, probably it wouldn't
16 be available for direct contact exposure or
17 exposure to fish or wildlife.
18 BY MR. KARAGANIS:
19 Q. Mr. Boice, please, this is a simple
20 scientific question. I am not asking you about
21 availability, mobility. I am simply asking you
22 a concentration question. It is literally sixth
23 grade science.
24 MR. TENENBAUM: I have to take exception to

1 that.

2 MR. KARAGANIS: Mr. Boice --

3 MR. TENENBAUM: It is not at all sixth

4 grade, because your question itself would take

5 quite and educated person to figure out the

6 ambiguities in it.

7 MR. KARAGANIS: Let's be absolutely crystal

8 clear.

9 Q. Is it not correct that alternatives 7

10 and 8 will result in concentrations of the

11 substances shown in table 1-7 in excess of the

12 concentration levels shown in table 1-7?

13 MR. TENENBAUM: Same objection.

14 A. Yes. There will be solidified material

15 remaining in the site that will exceed some of

16 the cleanup action levels.

17 Q. All right.

18 Now, would it be a fair statement,

19 then, that alternatives 7 and 8 will not achieve

20 the cleanup action levels in the soil, but

21 because of other reasons you do not feel that is

22 a concern for public health?

23 MR. TENENBAUM: Objection.

24 A. No, that is not correct. It would

1 achieve the cleanup action levels as defined in
2 the record of decision.
3 BY MR. KARAGANIS:
4 Q. But it won't a chief the cleanup action
5 levels as defined in table 1-7; isn't that
6 right?
7 A. It would, because those were designed
8 to define the extent of solidification. So
9 everything above that concentration would be
10 solidified.
11 MR. TENENBAUM: That is the whole thing with
12 your line of questioning. You want to take
13 these numbers that are in table 1-7. You want
14 to ask your question based on a column of
15 numbers for a different purpose than what they
16 were constructed for in this table. It is
17 incredibly ambiguous.
18 MR. KARAGANIS: Mr. Tenenbaum, I realize
19 your position from an advocate's standpoint.
20 Let's move on.
21 MR. TENENBAUM: I think I am entitled to
22 object for the record to this whole line of
23 questioning as being incredibly ambiguous and
24 misusing this table.

BY MR. KARAGANIS:

Q. Is it not correct that the solidified mass that is left in the soil under alternatives 7 and 8 will contain concentrations of substances listed in table 1-7 that exceed the concentrations shown as the cleanup action levels on 1-7?

MR. TENENBAUM: Same continuing objection.

A. That's correct.

Once it is solidified, it would be in a solid matrix, but some of the contaminants would probably be somewhat above the cleanup action levels.

MR. KARAGANIS: Thank you.

A. It is in that solidified mass.

Q. Thank you.

Now, Mr. Boice, directing your attention to table 1-7, are there areas below the groundwater table at Midco I and II which exceed the concentration levels in the soil shown on table 1-7?

MR. TENENBAUM: I am sorry. Can you read that back for me.

(The record was read.)

1 BY MR. KARAGANIS:
2 Q. I am referring to table 1-7 of the FS
3 for Midco II, Boice Deposition Exhibit 61.
4 MR. TENENBAUM: How is this relevant to the
5 impression of bad faith issue?
6 MR. KARAGANIS: Very relevant.
7 MR. TENENBAUM: How?
8 MR. KARAGANIS: Because the question that
9 comes in is that neither alternative 7 and 8 nor
10 alternative 4 will achieve the CAL's for soil
11 underneath the watertable.
12 MR. TENENBAUM: How is that relevant to the
13 impression of bad faith?
14 MR. KARAGANIS: It is relevant to the fact
15 that --
16 MR. TENENBAUM: I don't know what you mean
17 when you say cleanup action levels below the
18 soil.
19 MR. KARAGANIS: No ambiguities, Alan. I am
20 referring to the concentration limits of 1-7.
21 MR. TENENBAUM: Calling them cleanup action
22 levels creates a host of ambiguities as you well
23 know.
24 MR. KARAGANIS: I don't think it creates any

1 ambiguities at all. They were terms that were
2 used by the consultants and by you. You don't
3 like what they say now.
4 MR. TENENBAUM: They are just used for
5 different purposes in a different context. You
6 are trying to misuse it.
7 MR. KARAGANIS: Okay.
8 MR. TENENBAUM: How is that relevant to the
9 impression of bad faith issue?
10 MR. KARAGANIS: It is relevant to, number 1,
11 impossibility. It is relevant to, number 2, any
12 inconsistency between a position taken in the
13 ERM documents between the FS and the comments on
14 the public --
15 MR. TENENBAUM: Was there a position taken
16 with respect to below the groundwater?
17 MR. KARAGANIS: Yes. They said basically
18 that pump and treat would do the job.
19 MR. TENENBAUM: Was an inconsistent position
20 taken with respect to below the groundwater?
21 MR. KARAGANIS: They just said pump and
22 treat would not do the job for soil CAL's,
23 period, in 4-20 for CAL's.
24 MR. TENENBAUM: Why don't we establish a

1 foundation question as to whether the witness'
2 impression of bad faith relates to the
3 contractor's statements regarding both cleanup
4 action levels below the groundwater level and --
5 MR. KARAGANIS: He already testified to
6 this. I don't mind doing all this background
7 for you every time.
8 MR. TENENBAUM: I objected to this 45
9 minutes ago, that he already testified on this
10 subject.
11 You told me you were not going to be
12 asking questions on subjects that had already
13 been covered. You told me it was going to be a
14 real short question. We have been doing it for
15 45 minutes to an hour now.
16 MR. KARAGANIS: I am on subjects in the FS.
17 MR. TENENBAUM: This has been covered.
18 MR. KARAGANIS: Let's just do this.
19 MR. TENENBAUM: We originally did this
20 witness for three days.
21 MR. KARAGANIS: Wait a second.
22 Are you instructing the witness not to
23 answer?
24 I don't want to waste this time with

1 all this filler in the deposition. Are
2 instructing the witness not to answer?
3 MR. TENENBAUM: I am trying my best to find
4 out whether this is relevant to an impression or
5 an issue of bad faith.
6 MR. KARAGANIS: I will tell you as an
7 officer of the court that I understand CAL's in
8 the FS to mean CAL's that are listed on table
9 1-7.
10 I understand that the FS says that
11 alternative 4 will not meet the concentrations
12 on 1-7, that alternatives 7 and 8 will meet
13 them.
14 We have already covered that as to the
15 solidification issue. I am now referring to it
16 as to the material underneath the groundwater.
17 MR. TENENBAUM: I know that.
18 I am trying to find out whether that
19 has anything to do with his impression of bad
20 faith.
21 Does that have anything to do with your
22 impression of bad faith, below the groundwater?
23 A. Not that I can think of, no.
24 MR. TENENBAUM: The witness just said it has

1 nothing to do with it.
2 MR. KARAGANIS: Are you instructing the
3 witness not to answer?
4 MR. TENENBAUM: Yes. I am going to instruct
5 the witness not to answer the question.
6 BY MR. KARAGANIS:
7 Q. Could you answer the question if you
8 were allowed to, Mr. Boice?
9 A. Yes.
10 MR. TENENBAUM: He indicated it had nothing
11 to do with his impression of bad faith.
12 BY MR. KARAGANIS:
13 Q. All right.
14 Mr. Boice, directing your attention to
15 the ROD for Midco II, table 18. Are you
16 familiar with that?
17 Take Midco I, I don't care.
18 A. Take Midco I. Okay.
19 Q. It is the same table in both ROD's, is
20 it not?
21 A. Probably.
22 Q. Now, for Midco I, where did you get the
23 soil cleanup action level concentration shown in
24 table 18?

1 MR. TENENBAUM: Where did he get them?
2 MR. KARAGANIS: Yes.
3 MR. TENENBAUM: Hold it a second.
4 A. I didn't --
5 MR. TENENBAUM: It is the Agency's ROD. You
6 mean where did the Agency --
7 MR. KARAGANIS: He has previously testified
8 that he put together the ROD. Whoever signed
9 it, he put it together.
10 MR. TENENBAUM: I don't know that he
11 testified to this. His prior testimony will
12 speak for itself.
13 But, you are not entitled to take
14 discovery into the Agency's deliberative process
15 in putting together the ROD.
16 Is your purpose at this point to ask
17 the same questions you just asked for Midco I
18 and Midco II?
19 MR. KARAGANIS: I am about to seek
20 clarification. This witness said that the
21 numbers, he had some testimony that the numbers
22 listed in table 18 are applied in a somewhat
23 different way in the ROD.
24 I am about to go into that. I am

1 trying to find out where the numbers in table 18
2 came from first.
3 MR. TENENBAUM: I am sorry, but I think the
4 witness has already indicated the situation with
5 respect to the ROD and as to where he -- how the
6 Agency prepared the ROD.
7 I mean, I don't think you are entitled
8 to take discovery into that.
9 MR. KARAGANIS: Alan, I think this is going
10 to be a good illustration of where you have been
11 throughout this deposition.
12 Again, I don't want to confuse the
13 grade level, but I would assume a second grader
14 could determine that table 18 comes from table
15 1-7 of the Midco I FS. Now, if you are going to
16 tell witness he can't answer that question.
17 MR. TENENBAUM: I think that we are on the
18 tenth day of this deposition.
19 MR. KARAGANIS: There has not been one
20 question about table 1-7 or table 18 in this
21 deposition to date.
22 MR. TENENBAUM: To the extent you are
23 seeking to take discovery on the remedial
24 decision process, you are not allowed, you are

1 not permitted to do that.
2 MR. KARAGANIS: Is your instruction not to
3 answer?
4 MR. TENENBAUM: To the extent you are trying
5 to take discovery on the issue of the impression
6 of bad faith, that has been gone into at length
7 by the other parties and you have just asked
8 that for 45 minutes.
9 MR. KARAGANIS: Is your instruction not to
10 answer where this table comes from, after I have
11 just laid for you the rather complicated
12 foundation that it came from table 1-7 of the
13 Midco I FS?
14 MR. TENENBAUM: I am afraid I will have to
15 instruct the witness not to answer, because it
16 seeks discovery into the Agency decision-making
17 process.
18 BY MR. KARAGANIS:
19 Q. Mr. Boice, would you be able to answer
20 the question if you were allowed to by your
21 counsel?
22 A. Yes.
23 Q. Mr. Boice, you have previously stated
24 that the cleanup action levels that are shown

1 for soil, let's use Midco I, I believe it is on
2 page 29.
3 A. Cleanup action levels, you mean in the
4 ROD?
5 Q. Yes.
6 A. Okay.
7 Q. Now, do those cleanup action levels
8 that you have listed there as numerical risks,
9 do they have concentration analogs?
10 A. Well, you could calculate the risk
11 based on a standard exposure scenario and
12 concentrations of soils that you are concerned
13 with.
14 Q. How do those concentrations compare
15 with the concentrations that are risk-based that
16 are shown in table 18; in other words, are they
17 the same?
18 A. No.
19 MR. TENENBAUM: Same continuing objection.
20 A. They would be somewhat higher.
21 BY MR. KARAGANIS:
22 Q. Do you know what the risk base was for
23 the concentration shown in table 18?
24 A. The risk base?

1 Q. Yes.
2 A. Well, they used a certain exposure
3 scenario, and they use 10-to-the-negative-6
4 cleanup action level. Then they -- I think they
5 divided it, that by the number of chemicals, and
6 each one had to meet one-twentieth or something
7 like that of the risk level.
8 Q. You indicated the concentration analogs
9 for the risk numbers on table 29 would result in
10 concentrations that are somewhat higher than the
11 concentrations shown on table 18; is that right?
12 A. That's correct.
13 Q. Again, this is not a trick question.
14 Does that mean that there would be materials
15 that would be above the concentrations shown on
16 table 18 that would not be solidified?
17 MR. TENENBAUM: Same continuing objection.
18 A. Probably.
19 BY MR. KARAGANIS:
20 Q. Have you made any attempt to determine
21 what volume of materials would exceed the soil
22 CAL's and not be solidified?
23 MR. TENENBAUM: Can you read that back,
24 please.

1 (The record was read.)
2 BY MR. KARAGANIS:
3 Q. Go ahead.
4 MR. TENENBAUM: Anyway, I have to object to
5 that because as the questioner well knows the
6 term soil CAL's has been used in a different
7 context than by the questioner in different
8 documents. Therefore, your question is
9 hopelessly ambiguous. I object to it.
10 MR. KARAGANIS: Mr. Tenenbaum, as a matter
11 of fact, I want you to understand that we are
12 being very simple here. See Dick and Spot. We
13 are going to do this very simply.
14 There are concentration limits that are
15 shown in table 18.
16 MR. TENENBAUM: If you want to talk about
17 concentration limits, that's fine.
18 When you use cleanup action levels,
19 that is terribly unfair in the context of his
20 prior answer.
21 MR. KARAGANIS: Excuse me, Mr. Tenenbaum.
22 Table 18 says the term cleanup action levels and
23 lists them as concentration limits.
24 MR. TENENBAUM: They are used in different

1 senses for different purposes, both between the
2 ROD and table 18 and within the FS, they are
3 also used in different ways.
4 A. I would like to make a clarification.
5 First of all, on page 29, which is in
6 the body of the record of decision summary, it
7 clearly states what are the soil cleanup action
8 levels, and they are based on cumulative
9 lifetime carcinogenic risk equals
10 10-to-the-minus-6. Cumulative chronic
11 non-carcinogenic index equals 1, and subchronic
12 risk index equals 1.
13 BY MR. KARAGANIS:
14 Q. You have agreed with me, Mr. Boice,
15 that those numbers translate into --
16 A. It says nothing about table 18 there.
17 Q. Excuse me, Mr. Boice.
18 A. The only reference to table 18 is on
19 the next page, where it states that the
20 analytical procedures, this is for the analyses
21 of the groundwater, will at least reach the
22 analytical detection limits listed in tables 17
23 and 18.
24 The constituents that are not detected

1 shall not be included in the risk calculations.
2 Constituents that are detected below background
3 concentrations identified on table 17 and 18
4 shall not be included in the risk calculations.
5 So that's the only use of table 17 and
6 18 in the record of decision.
7 MR. TENENBAUM: Let me see if I can get you
8 to clarify your question.
9 You have asked some questions about the
10 concentration numbers in table 18. Are you
11 asking the witness to testify as to whether or
12 not there will be an actual reduction below
13 concentration levels in solidified material or
14 are you asking the witness to testify as to
15 whether the material which is higher than those
16 concentration levels will be all solidified?
17 Those are two different questions.
18 MR. KARAGANIS: Mr. Tenenbaum, we started
19 with, if you followed the sequence, the first
20 sequence was are there concentration analogs to
21 the risk-based levels shown on table 29. The
22 answer was yes.
23 Are those concentration analogs higher,
24 the same or lower than the concentrations shown

on table 1-18. The answer was they are higher.

MR. TENENBAUM: Yes.

MR. KARAGANIS: Does that then logically mean that there will be areas of soil between the concentration analogs on page 29 and the concentration numbers on table 18 that will not be solidified. The answer was yes.

A. I think it was probably.

MR. KARAGANIS: Probably. You are correct, Rich. It was probably. All right.

Do you understand?

MR. TENENBAUM: We went well beyond that with other questions.

MR. KARAGANIS: No, we didn't.

MR. TENENBAUM: You just asked two questions.

MR. KARAGANIS: I then asked him had any attempt been made to determine the volume of the soil that would fall within that nitch. And you then went off on your marry way.

MR. TENENBAUM: Let's go off the record for a second.

(Discussion had off the record.)

MR. TENENBAUM: Back on the record.

1 MR. KARAGANIS: Do you understand now the
2 question?
3 MR. TENENBAUM: I still think the whole line
4 of questioning is ambiguous, but subject to my
5 objections on ambiguity and other grounds, I
6 will let him answer.
7 A. During negotiations, the defendants or
8 the representatives of the defendants submitted
9 a calculation of the amount -- an estimation of
10 the amount of material that would have to be
11 solidified, based on the cleanup action levels
12 as defined in the record of decision.
13 BY MR. KARAGANIS:
14 Q. Yes.
15 That was the amount that was to be
16 solidified?
17 A. That was their estimate based on the
18 cleanup action levels in the record of decision.
19 Q. My question was has there been any
20 analysis of the amount of soil that would fall
21 with a concentration between the concentration
22 analogs on page 29 and the concentrations on
23 table 1-18?
24 A. Well, first of all, the sampling at the

1 site isn't extensive enough to answer that
2 question.
3 Q. All right.
4 A. I guess you could, for example, the --
5 to estimate the amount of solidification at
6 Midco I, Dames & Moore just made a rectangle
7 like that, and everything within that had to be
8 solidified, according to their evaluation.
9 And then later the PRP's during
10 negotiations came in with a document where it
11 was more defined.
12 And there would also be -- there would
13 be a certain area that would have to be
14 solidified, then certain areas where they would
15 sample and then decide whether to solidify or
16 not.
17 I think they did come up with an
18 estimate that was lower than what was in the
19 feasibility study for the extent of
20 solidification based on these action levels.
21 Q. You mean an estimate based on the
22 action levels, the risk-based numbers that you
23 got on page 29 versus what it would be if they
24 followed the numbers on table 1-18?

1 A. Well, it was during negotiations, the
2 estimate was based on the ROD action levels.
3 Yes, the FS was based on the action levels
4 calculated by Dames & Moore for the FS.
5 Q. Okay.
6 A. So in a way it is, although it is all
7 very rough.
8 Q. Has any attempt been made to quantify
9 the amount of soil that will remain above the
10 concentration limits, either of the
11 concentration analogs on page 29 or the
12 concentration limits on table 1-18 for the soil
13 beneath the groundwater?
14 MR. TENENBAUM: Can you read it back,
15 please.
16 (The record was read.)
17 I thought we have already established
18 that beneath the groundwater doesn't have
19 anything to do with this.
20 MR. KARAGANIS: Are you instructing him not
21 to answer? Let's move on.
22 MR. TENENBAUM: Yes.
23 MR. KARAGANIS: You are instructing the
24 witness not to answer?

1 MR. TENENBAUM: Yes, unless you can proffer
2 some basis that it is relevant to a non-record
3 issue.
4 BY MR. KARAGANIS:
5 Q. Mr. Boice, could you answer the
6 question if you were allowed to by your counsel?
7 A. Yes.
8 Q. Mr. Boice, is there anywhere in the
9 record or anywhere else where the concentration
10 analogs to the risk numbers on page 29 are
11 listed?
12 A. In the record of decision?
13 Q. Or anywhere.
14 MR. TENENBAUM: Same continuing objection.
15 BY MR. KARAGANIS:
16 Q. Has anybody given a list that says
17 these are the concentration analogs to those
18 numbers?
19 A. It is difficult to do, because it would
20 depend on what was detected at each location.
21 For example, if arsenic was detected,
22 only arsenic was detected at one location, then
23 the concentration or the risk level would lead
24 to a certain concentration. But, if you have

1 PCBs and arsenic at the same location, then
2 because there is a cumulative effect, the
3 concentrations of each would be lower than if
4 only one individual chemical was present.
5 Q. All right.
6 But those concentrations can be
7 calculated, can they not?
8 A. They can be calculated.
9 Q. Have they been calculated?
10 A. I presume they have, yes.
11 They have been calculated by ERM in
12 order to get their estimate of the extent of
13 solidification.
14 Q. Do you know where those calculations
15 are?
16 A. No. I have done some preliminary rough
17 calculations myself
18 Q. Were those preliminary rough
19 calculations listed in the index in Boice
20 Deposition Exhibit No. 3?
21 A. No.
22 Q. Are they in your possession?
23 A. I don't remember whether I have them or
24 not.

1 Q. Would they be in your files if you do
2 have them?
3 A. They would be someplace in my files if
4 I have them, yes.
5 MR. KARAGANIS: I would request the
6 calculations that Mr. Boice has made with
7 respect to those cleanup action levels.
8 Q. Mr. Boice, I note that the cleanup
9 action levels in risk terms based on page 29 of
10 the Midco I ROD are different than the cleanup
11 action level risk terms on page 28 of the Midco
12 II ROD.
13 Is there a reason for that?
14 A. For the soil cleanup action levels?
15 Q. Yes.
16 A. I think the only difference is that --
17 MR. TENENBAUM: Same continuing objection.
18 A. -- is that in Midco I the risk, the
19 cleanup action level is partially based on the
20 cumulative lifetime carcinogenic risk of
21 1-times-10-to-the-negative-6th. At Midco II it
22 is 1-times-10-to-the-negative-5th.
23 Q. Why is that?
24 MR. TENENBAUM: Hold it a second.

1 How is that relevant to any non-record
2 issue?
3 MR. KARAGANIS: It is relevant to the extent
4 that there are statements made one remedy or
5 another cannot meet soil cleanup action levels,
6 and that is a basis for some kind of bad faith.
7 It is also a question of impossibility. We are
8 entitled to explore it.
9 Again, I have made this speech enough
10 times, Alan. You have made your speech.
11 You want to tell this witness not to
12 answer, fine, you go right ahead and tell him.
13 MR. TENENBAUM: Does this have anything to
14 do with your impression of bad faith?
15 A. No.
16 MR. TENENBAUM: Then I will direct him not
17 to answer.
18 BY MR. KARAGANIS:
19 Q. Okay.
20 Could you answer the question if you
21 were allowed to?
22 A. Yes. It is in the ROD itself.
23 Q. Okay.
24 Mr. Boice, a follow-up question just so

1 there is clarification.

2 Subject to the comments you have made

3 about solidification and its protections for

4 bio-availability, et cetera; is it an accurate

5 statement that alternatives 7 or 8 will result

6 in concentrations of contaminants listed in

7 table 1-18 of the ROD in the soil above the

8 groundwater table above the concentration

9 analogs to the risk numbers on page 29 of the

10 Midco I ROD and 28 of the Midco II ROD?

11 MR. TENENBAUM: Same continuing objection.

12 A. I couldn't follow your question. First

13 of all, it is table 18, not 1-18.

14 BY MR. KARAGANIS:

15 Q. I am sorry. It is table 18.

16 A. Would you repeat the question?

17 Q. I am directing your attention simply to

18 substances listed in table 18. You have

19 indicated that there are concentration analogs

20 to the risk narratives shown on page 29 of the

21 Midco I ROD and 28 of the Midco II ROD. Is that

22 correct?

23 A. Yes.

24 Could you calculate a concentration

1 from those risk-based numbers?
2 Q. I am asking you, you have testified
3 rather heatedly that once solidified material is
4 not bio-available and a lot of other good
5 things, simply from the standpoint of
6 concentration in the solidified mass; is it not
7 correct that with alternatives 7 and 8, there
8 will be concentrations of contaminants listed in
9 table 18 in excess of the concentration analogs
10 shown on page 29 of the Midco I ROD and 28 of
11 the Midco II ROD?
12 A. I think I already answered yes. There
13 will be some concentrations within the
14 solidified material that would exceed those
15 cleanup, those action levels.
16 Q. All right.
17 Alan, for your benefit, the foundation
18 I am laying, I take it the position of the
19 witness is that there will be a mass of soil
20 that will be solidified that has certain
21 concentrations in it, the level of
22 solidification will be based on all soil above
23 those concentrations. Because there is an
24 inconsistency which requires explanation, I am

about to get to. I am trying to take you along so you don't --

MR. TENENBAUM: Let's do this off the record. I don't think we need to do it on the record.

MR. KARAGANIS: Let me ask the question, you can do what you want to do.

Q. Mr. Boice, I take it that solidification will take all soils that are above your concentration analogs on pages 29 and 28 of the Midco I and Midco II ROD's and solidify all soils above those limits; is that right?

A. Yes, assuming it is effective.

Q. Okay.

Now, on page 11 of the Midco I ROD and -- I am sorry, on pages 12 of both ROD's, in the section that says description of alternatives, there is a statement that says surface sediments will be scraped up in the areas shown in figure 14 to a depth that will relieve the remaining sediments below the soil CAL's. If you look at figure 14 on the next page.

1 Again, is it your understanding that
2 the remedy calls for scraping and excavation of
3 the soils, so that the only remaining soils are
4 below the soil CAL's or does it mean that the
5 remaining soils can be above the remaining CAL's
6 as long as they are solidified?
7 MR. TENENBAUM: Same continuing objection.
8 A. What page, you are on page 12?
9 BY MR. KARAGANIS:
10 Q. Yes, page 12, it refers to a diagram on
11 figure 14 and figure 12. Midco II is figure 12,
12 Midco I is figure 14.
13 A. What was the question again?
14 Q. Read literally, the sentence that says
15 in both ROD's and I quote:
16 "Surface sediments
17 will be scraped up in the
18 areas shown in figure 12 to
19 a depth that will leave the
20 remaining sediments below
21 soil CAL's."
22 Now that could include a depth down to
23 as far as you can dig.
24 And the question is, that appears to be

1 contradictory to the concept of solidifying the
2 soils in place at levels that are above the
3 numerical CAL's?
4 A. It says surface sediments. Sediments
5 implies not the -- the formation or the soils in
6 the formation itself. It is just sediments that
7 are deposited on top of the primary formation in
8 that area.
9 Q. What depth?
10 A. Basically it is to go down until you
11 have removed all the contaminated sediments in
12 this area.
13 Q. Well, I am looking at the area, I am
14 looking particularly at Midco II. It looks like
15 virtually the entire area. If I start digging I
16 am going to go to ten feet or more.
17 A. No.
18 The sediments are just in the ditch
19 north of the site. So you would have to
20 excavate the sediment out of the ditch until you
21 reach the cleanup action levels in that area.
22 Q. You are simply referring to the ditch?
23 A. Right.
24 MR. KEATING: That is off-site also.

1 A. There is sediment right here.
2 BY MR. KARAGANIS:
3 Q. You are not referring to the area
4 marked as soil?
5 A. No. There is the soil. The sediments,
6 I guess this got the old -- but this area up
7 here.
8 Q. The area that is whited out on the
9 copy?
10 A. I don't know. It faded out, I guess.
11 Q. Now, with respect to, the same thing is
12 true of the Midco I ROD, figure 14, that same
13 distinction between sediments and soil?
14 A. Yes.
15 Q. Directing your attention to another
16 problem of clarification. On page 1 of both
17 ROD's.
18 A. Of the ROD summary you mean?
19 Q. Well, it is the ROD summary. First
20 page of both ROD's.
21 It says that solidification will be
22 considered successful when it reduces the
23 mobility of contaminants so that leachate from
24 the solid mass will not cause exceedance of

1 health-base levels in groundwater.
2 Are you familiar with that passage?
3 A. Yes.
4 Q. Again, there appears to be an
5 inconsistency which may be explained by
6 something as simple as the fallibility of xerox
7 machines.
8 Is it your understanding that if the
9 calculations, subject to EPA's satisfaction,
10 show that the mass of soil which is solidified
11 is a mass smaller than the mass that would meet
12 the concentration analogs of pages 29 and 28 of
13 the Midco I and II ROD's, that that would
14 satisfy the remedial requirements as long as the
15 calculations showed that leachate from the mass
16 and the remaining material would not cause
17 exceedance of health-base levels in the
18 groundwater?
19 MR. TENENBAUM: Objection.
20 Is this related to the impression of
21 bad faith issue?
22 A. No.
23 MR. KARAGANIS: Yes, it is. It is very much
24 related.

1 One of the things, if that is what the
2 test of compliance is here, that is a whole lot
3 different. One of the things that I am having
4 great difficulty doing in advising my client is
5 what it is that EPA is requiring.
6 Are they requiring solidification up to
7 pages 28 and 29, or are they requiring something
8 that says that once you demonstrate that the
9 soil materials will not cause exceedance of
10 health-base levels in the groundwater, you can
11 stop solidification.
12 Those are two very, very different
13 situations.
14 MR. TENENBAUM: Are you asking whether or
15 not the extent of the soil that needs to be
16 solidified needs to take into account the
17 cleanup action levels on pages 28 and 29?
18 MR. KARAGANIS: He has already testified
19 that under one theme of this program the soil
20 will be solidified, all soil that is above
21 certain concentration limits will be solidified.
22 There is another statement in here that
23 says that you can stop solidifying as soon as
24 you can show that the contaminants in the soil

1 will not cause exceedance of health-base levels
2 in groundwater.
3 A. It doesn't say that.
4 MR. KARAGANIS: That's what I am trying to
5 find out.
6 MR. TENENBAUM: I will object, but I will
7 let you answer subject to my objection. Same
8 continuing objection.
9 A. Okay.
10 It makes it clear in the summary that
11 what is required is the solidification to the
12 cleanup action levels defined in section 10 of
13 the record of decision.
14 What this indicates is that at least
15 one indication of the success of
16 solidification/stabilization would be the
17 reduction of mobility of contaminants, so that
18 it would not cause a health problem in the
19 groundwater.
20 BY MR. KARAGANIS:
21 Q. That's one of its goals?
22 A. Yes.
23 Q. I see.
24 A. But there isn't a complete statement of

1 goals of solidification/stabilization.
2 MR. TENENBAUM: Are you done?
3 A. Yes.
4 BY MR. KARAGANIS:
5 Q. Directing your attention to Boice
6 Deposition Exhibit No. 59.
7 A. Which one?
8 Q. This is this chart in the area of
9 remedial activity.
10 Is it correct that solidification is
11 not being demanded in the area that is
12 identified on Exhibit 59 as the surficial
13 aquifer?
14 MR. TENENBAUM: Same continuing objection.
15 BY MR. KARAGANIS:
16 Q. Do you understand what I am saying?
17 A. I think in the feasibility study, it
18 was indicated that they may have some localized
19 dewatering to treat highly contaminated areas.
20 Q. Localized dewatering to excavate or
21 localized dewatering to solidify?
22 A. To solidify.
23 Q. In an underwater environment --
24 MR. TENENBAUM: Same continuing objection.

1 A. The reason we decided not to require --
2 MR. TENENBAUM: Hold it a second.
3 If he wants to ask questions on your
4 impression of bad faith, that is one thing. He
5 is not allowed to ask questions as to the
6 reasons that you decided to require -- reasons
7 that the Agency decided to require things.
8 So please limit your answers to the
9 impression of bad faith issue.
10 A. Okay.
11 I don't see any relevance regarding the
12 bad faith issue on this.
13 BY MR. KARAGANIS:
14 Q. Excuse me, Mr. Boice.
15 I am asking you simply with respect to
16 the area that is marked as the surficial
17 aquifer. Does the ROD require the cleanup
18 action level for soils to be solidified?
19 MR. TENENBAUM: Now I am going to object to
20 the question on all the grounds I have already
21 indicated.
22 I am going to allow you to answer it in
23 the interest of expediting this. But, I am
24 going to specifically instruct you not to give

1 the reasons for any Agency decision.
2 A. Okay.
3 The answer is on page 12 of the ROD
4 summary. First paragraph, the last sentence it
5 is stated:
6 "Therefore, the
7 soil removal and treatment
8 alternatives only address
9 contaminated subsurface
10 soils, and materials above
11 the watertable and highly
12 contaminated materials below
13 the watertable that can be
14 handled by localized
15 dewatering "
16 Q. Have those areas been identified?
17 A. I think we have some idea of the extent
18 of that, based on the old topography. But, it
19 was more a case of as you go, if you found the
20 highest areas that were obviously highly
21 contaminated, we would try to define it and then
22 solidify it. That is how I was thinking.
23 But, it is really a design decision as
24 to how they would address that.

1 Q. Let's be clear.
2 If there are spots below the watertable
3 that can be handled by localized dewatering, it
4 is your testimony that they should be solidified
5 as opposed to removed?
6 MR. TENENBAUM: Same continuing objection.
7 A. Well, the ROD selected solidification.
8 BY MR. KARAGANIS:
9 Q. So the solidification will be -- if
10 they find a hot spot that can be dewatered, it
11 will be solidified, is that right, under the
12 ROD?
13 A. Yes.
14 Q. And is there a depth or physical area
15 that defines what you mean by localized
16 dewatering?
17 MR. TENENBAUM: Same continuing objection.
18 A. No. It is really I guess an
19 engineering determination as to what is
20 practical, that would have to be worked out
21 during the design process.
22 MR. TENENBAUM: Is this a good time for a
23 five-minute break?
24 MR. KARAGANIS: I think that is good.

1 (Whereupon a short recess was had.)
2 Q. With respect to the goal that is listed
3 on the front of the summary of both the Midco I
4 and the Midco II ROD's, namely to reduce the
5 mobility of contaminants in the soils so that
6 leachate will not cause exceedance of
7 health-base levels in the groundwater.
8 What are the health-base levels to
9 which you refer?
10 MR. TENENBAUM: To which the Agency refers?
11 MR. KARAGANIS: To which the Agency refers.
12 MR. TENENBAUM: Same continuing objection.
13 A. Those would be those defined on page --
14 section 10 of the record of decision.
15 BY MR. KARAGANIS:
16 Q. Are those levels different than the
17 cleanup action levels for water that are shown
18 in table 17, groundwater cleanup action levels,
19 for the Midco I and Midco II ROD's?
20 MR. TENENBAUM: Same continuing objection.
21 A. Yes.
22 BY MR. KARAGANIS:
23 Q. And those concentration limits, the
24 concentration analogs to the risk-based water

1 values shown on page 29 of the Midco I ROD and
2 28 of the Midco II ROD, have the concentration
3 analogs been listed anywhere?
4 MR. TENENBAUM: Same continuing objection.
5 A. Well, you really can't list, because it
6 would change depending on the number of
7 chemicals detected and which chemicals were
8 detected. But, they could be calculated if you
9 wanted.
10 BY MR. KARAGANIS:
11 Q. All right.
12 The soil cleanup action levels and the
13 risk levels that are shown on page 29 of the
14 Midco I ROD and page 28 of the Midco II ROD, are
15 they based on concentrations that are needed to
16 protect against leaching to cause groundwater
17 violations or are they based on concentrations
18 of risk that relates to direct ingestion of the
19 soil?
20 MR. TENENBAUM: Is this relevant to the bad
21 faith issue?
22 MR. KARAGANIS: Yes.
23 Q. Do you understand the question?
24 A. I don't see any relevance to the bad

1 faith issue.

2 MR. KARAGANIS: Do you want to instruct him

3 not to answer?

4 MR. TENENBAUM: If it is not relevant to a

5 non-record issue.

6 MR. KARAGANIS: It is relevant to a

7 non-record issue. It is relevant to our good

8 faith refusal to comply with the order.

9 What you are saying is we are refusing

10 to comply with the order. We are saying if we

11 are, which we don't think we are, we are doing

12 so with sufficient cause and in good faith.

13 You are saying we are doing it in bad

14 faith.

15 MR. TENENBAUM: Again, you haven't even

16 produced a witness who is willing to testify for

17 us on that.

18 MR. KARAGANIS: You pile up your litany. If

19 you are going to instruct him not to answer on

20 this question.

21 MR. TENENBAUM: Unless you are able to

22 proffer a basis, I will have to instruct him not

23 to answer.

24

1 BY MR. KARAGANIS:
2 Q. Could you answer the question if you
3 were allowed to by your counsel?
4 A. Yes.
5 MR. TENENBAUM: Note for the record that
6 American Can has not even been willing to
7 produce a witness for us to testify as to their
8 good faith, alleged good faith belief or
9 anything else relevant, whatever is relevant to
10 the issue of sufficient cause.
11 A. It is also defined in the unilateral
12 order, how to calculate the soil cleanup action
13 levels.
14 BY MR. KARAGANIS:
15 Q. How to calculate the soil cleanup
16 action levels to achieve groundwater or how to
17 calculate the soil cleanup action levels to
18 protect against ingestion, which?
19 MR. TENENBAUM: Same objection.
20 MR. KARAGANIS: You just answered the
21 question. I am entitled to a follow up.
22 MR. TENENBAUM: He just referred you to the
23 administrative order is all he did.
24 A. Right.

1 MR. KARAGANIS: Is your instruction that he
2 shouldn't answer?
3 MR. TENENBAUM: Unless you are able to tell
4 me how it is relevant to a non-record issue, I
5 have no choice but to instruct him not to
6 answer.
7 BY MR. KARAGANIS:
8 Q. Could you answer the question if your
9 counsel allowed you to?
10 A. Yes.
11 Q. Is it not correct, Mr. Boice, that
12 EPA's ROD allows soils above the soil cleanup
13 action levels of either table 18 of the ROD's or
14 of page 29 of the Midco I ROD or Midco II ROD to
15 exist below the groundwater?
16 MR. TENENBAUM: Didn't we cover that before?
17 It is not relevant to an impression of
18 bad faith issue.
19 MR. KARAGANIS: I believe it is central to
20 the question of good faith. You make your draw,
21 Alan.
22 MR. TENENBAUM: Would you read back that
23 one, please?
24 (The record was read.)

1 I think the witness has indicated that
2 his impression of bad faith did not extend to
3 below the groundwater area.
4 MR. KARAGANIS: Wait a second.
5 The statement of bad faith is related
6 to the efficacy of the remedies and the shift in
7 positions. I am going to go through this again.
8 If you are going to instruct him not to answer,
9 instruct him not to answer.
10 I am going to ask him these questions
11 on the stand and before we get to the stand, I
12 am going to get an opportunity to tell the judge
13 the government's position on this thing.
14 MR. TENENBAUM: I think you have an
15 obligation rather than just throwing darts to,
16 you know, try and explore whether or not these
17 issues are relevant to non-record issues.
18 I haven't heard any basis yet as to how
19 it is. You did in your most recent statement
20 say it is somehow relevant to change in
21 position. How is it relevant to that change in
22 position issue?
23 MR. KARAGANIS: It is relevant to whether or
24 not either the EPA remedy or the proposed PRP

1 remedy will meet cleanup action levels at the
2 site.
3 The witness has previously testified
4 that consultants told him that the PRP remedy
5 wouldn't and the EPA remedy would.
6 MR. TENENBAUM: And therefore?
7 MR. KARAGANIS: And, therefore, when they
8 then came back and said that the PRP remedy
9 would, that there was a question of bad faith,
10 there was an inconsistency. I am entitled to
11 explore the questions of consistency.
12 Again we are running late on time. Do
13 you instruct the witness?
14 MR. TENENBAUM: I will object and I will let
15 him answer subject to my objection, even though
16 I don't see it at all.
17 A. As I stated before, the ROD provides
18 for surface removal and treatment of the
19 contaminated subsurface materials, soils and
20 materials above the groundwater and highly
21 contaminated materials below the water that can
22 be handled by localized dewatering.
23 So to the extent that it can't be
24 handled practically by localized dewatering,

1 then it would be left and only treated through
2 the removal action of the groundwater.
3 BY MR. KARAGANIS:
4 Q. Is that sufficient to achieve the
5 cleanup action levels for water?
6 MR. TENENBAUM: Same objection.
7 A. I don't understand your question.
8 BY MR. KARAGANIS:
9 Q. By allowing the soil that is above
10 cleanup action levels for soil to remain and be
11 subjected to the groundwater leaching, is that
12 sufficient to achieve the cleanup action levels?
13 MR. TENENBAUM: Same objection.
14 A. For groundwater or soil?
15 BY MR. KARAGANIS:
16 Q. For groundwater.
17 A. The groundwater would have to be pumped
18 and treated until cleanup action levels were
19 reached in the aquifer, in the Calumet aquifer.
20 Q. You would allow those soils to remain
21 above soil cleanup action levels, as long as you
22 kept pumping to meet the groundwater cleanup
23 action levels; is that right?
24 A. Right. You would have to continue

1 pumping until you meet the groundwater cleanup
2 action levels.
3 MR. TENENBAUM: Your question was focusing
4 solely on groundwater cleanup action levels?
5 MR. KARAGANIS: You would allow the soil
6 cleanup action levels to be exceeded as long as
7 they pumped. That is what he said.
8 MR. TENENBAUM: You asked the one question
9 and he said do you mean the groundwater cleanup
10 action levels or the soil cleanup action levels.
11 Your answer was groundwater.
12 Then you proceeded on a line of
13 questions in which you have now departed from --
14 MR. KARAGANIS: Alan, I was very clear. I
15 was referring to soil cleanup action levels as
16 they related to achievement of the groundwater
17 cleanup action levels. There was no attempt at
18 deception. If you listen to the question, it
19 was perfectly clear.
20 MR. TENENBAUM: I don't think so. You can
21 go on.
22 BY MR. KARAGANIS:
23 Q. Now, will flushing allow the
24 achievement of soil cleanup action levels at any

1 location at either of the sites?
2 MR. TENENBAUM: I will have to --
3 alternative 4, is that what you are talking
4 about?
5 MR. KARAGANIS: Alternative 4 or any variant
6 of alternative 4.
7 MR. TENENBAUM: Hold it a second.
8 Same objections as earlier. I object
9 to the extent it seeks testimony on record
10 issues, to the extent it seeks expert opinion.
11 Subject to my objection, if you think
12 you know the answer, you can try and answer,
13 without speculating.
14 A. I think the evidence indicates that
15 many of the chemicals on-site are not mobile and
16 would not -- would not be successfully removed
17 by soil flushing.
18 BY MR. KARAGANIS:
19 Q. Have you done any calculations as to
20 whether or not the chemicals in their existing
21 state on the site are capable of being leached
22 so as to cause groundwater violations,
23 groundwater CAL violations?
24 MR. TENENBAUM: Same continuing objection.

1 A. There was information submitted by ERM
2 on how long it would take to meet groundwater
3 cleanup action levels in the aquifer, if
4 solidification is not conducted. And they
5 calculated it would take over 500 years, I
6 think, for some chemicals.
7 BY MR. KARAGANIS:
8 Q. Excuse me.
9 I am not -- is that the document you
10 previously provided Mr. Finch?
11 A. I think so.
12 Q. All right.
13 I am not referring to that document. I
14 am referring to simple question of the soils
15 themselves, if the water was clean.
16 Have you done any analysis as to
17 whether the source concentrations in the soils
18 at Midco I or Midco II can sufficiently leach so
19 as to cause groundwater violations?
20 A. You mean exceedance of cleanup action
21 levels?
22 Q. Yes.
23 MR. TENENBAUM: Same objection.
24 A. Without solidification or?

1 BY MR. KARAGANIS:
2 Q. Without solidification, just as they
3 are now.
4 A. And without soil vapor extraction?
5 Q. That's correct.
6 MR. TENENBAUM: You say you. I am confused.
7 BY MR. KARAGANIS:
8 Q. Are you aware of anybody who has done
9 it?
10 A. No. I don't remember anyone making
11 those calculations.
12 Q. Let's break down the substances.
13 With respect to metals specifically,
14 are you aware of any data showing that the
15 metals that are currently at the site in the
16 soils could leach so as to cause violations of
17 the groundwater cleanup action levels?
18 MR. TENENBAUM: Will you read that back? I
19 am sorry.
20 (The record was read.)
21 BY MR. KARAGANIS:
22 Q. Go ahead.
23 MR. TENENBAUM: I have been very patient in
24 bearing with your line of questioning which I

1 have continually indicated on the record that I
2 don't believe is proper.
3 At this point we are now so far
4 completely afield from any conceivable
5 relationship to the impression of bad faith
6 issue that I will have to instruct the witness
7 not to answer.
8 BY MR. KARAGANIS:
9 Q. Mr. Boice, could you answer the
10 question if your counsel allowed you to answer
11 it?
12 A. Yes.
13 Q. Without getting into what the nature of
14 those calculations are, are you aware of such
15 calculations?
16 MR. TENENBAUM: Same objection and
17 instruction.
18 MR. KARAGANIS: Instruct the witness not to
19 answer, even as to whether such calculations
20 exist?
21 MR. TENENBAUM: You are trying to take
22 discovery relating to record issues.
23 MR. KARAGANIS: If it is in the record he
24 can point me to it.

1 Are you saying you are not going to
2 allow him to answer as to whether such
3 calculations exist?
4 MR. TENENBAUM: I am not going to allow him
5 to answer the question on discovery into the
6 Agency's decision-making processes on the
7 issuance of the record of decision.
8 MR. KARAGANIS: I am asking you, Mr.
9 Tenenbaum, as an officer of the court, is there
10 such data in existence? And I am asking this
11 witness.
12 And all I can tell is that you are
13 attempting to suppress the illumination of
14 highly relevant material. If it does exist, I
15 am entitled to know about it. If it doesn't
16 exist, I am also entitled to know about it.
17 All I can gather from your instruction
18 is that you are attempting to suppress and
19 inquiry into the truth.
20 MR. TENENBAUM: You know, you can make a
21 nice speech like that. I have heard that speech
22 a number of times today, and on your previous
23 rounds of the deposition. And it sounds all
24 very nice, but it is not consistent with the way

1 the statute works and we have our pending motion
2 before the court on that.
3 I am not trying to hide anything. The
4 record speaks for itself.
5 MR. KARAGANIS: It appears to me that you
6 are, but I will move on.
7 MR. TENENBAUM: We have had this witness
8 here for ten days.
9 MR. KARAGANIS: It appears to me that you
10 are trying to hide something, but I will move
11 on.
12 MR. TENENBAUM: If we had to produce
13 witnesses to answer questions on remedy
14 selection, we would be constantly in multiple
15 deposition for every day of the year with
16 respect to all these sites around the country.
17 MR. KARAGANIS: You have made your speech.
18 MR. TENENBAUM: You have made yours, I will
19 make mine.
20 MR. KARAGANIS: We are dealing only with two
21 sites here and the question is whether you
22 followed the law.
23 MR. TENENBAUM: We are not dealing with only
24 two sites here. If we do it in this case, we

1 have to do it in every case.
2 MR. KARAGANIS: You have to follow the law
3 in every case, that's true.
4 MR. TENENBAUM: We are following the law.
5 And those issues that you are
6 disagreeing with our following the law on is
7 before the court. I am sure the court will rule
8 on that.
9 And I think it is improper for you to
10 suggest that we are trying to suppress anything.
11 I think it is improper for you to try to take up
12 the Agency's time in this fashion, and trying to
13 take discovery into the deliberative-process of
14 the Agency is contrary to well established case
15 law.
16 MR. KARAGANIS: If such data exists has
17 nothing to do with the deliberative process, Mr.
18 Tenenbaum. It is whether the data exists or
19 not.
20 MR. TENENBAUM: You are seeking to take
21 discovery which is only relevant to one thing,
22 that is, the Agency's deliberative-process in
23 arriving at decisions in this matter.
24 BY MR. KARAGANIS:

1 Q. Are you aware of any calculations that
2 deal with whether the concentrations of
3 semi-volatiles in the soils at the Midco II site
4 would or could leach so as to cause violations
5 of groundwater cleanup action levels?
6 MR. TENENBAUM: Same objection and
7 instruction.
8 Let's move on.
9 MR. KARAGANIS:
10 Q. Could you answer the question if your
11 counsel allowed you to?
12 A. Yes.
13 BY MR. KARAGANIS:
14 Q. Mr. Boice, are you aware of any
15 calculations that relate to whether or not the
16 concentrations of volatile organics or VOC's in
17 the soils at the Midco site could leach so as to
18 cause violations of the groundwater cleanup
19 action levels?
20 MR. TENENBAUM: Same objection and
21 instruction.
22 BY MR. KARAGANIS:
23 Q. Would you be able to answer the
24 question if your counsel allowed you to do?

1 A. Yes.
2 Q. Mr. Boice, as to either metals,
3 volatiles or semi-volatiles, are there
4 calculations anywhere in the documents that are
5 listed in Boice Deposition Exhibit No. 3 that
6 contain calculations as to whether the soils and
7 the concentrations of such substances in the
8 soils could leach so as to cause violations of
9 groundwater cleanup action levels?
10 MR. TENENBAUM: Same objection and
11 instruction.
12 MR. KARAGANIS: Mr. Tenenbaum, you have
13 allowed this witness to testify as to the
14 contents of various documents within the record
15 that he has called the record so-called index,
16 Boice Deposition Exhibit No. 3.
17 MR. TENENBAUM: I have allowed the witness
18 to testify without objection. You are not
19 contending that, are you?
20 MR. KARAGANIS: You are instructing now, Mr.
21 Tenenbaum, you are going beyond objection. You
22 are trying to close off inquiry.
23 MR. TENENBAUM: You are saying I have
24 allowed the witness to answer. I think that is

1 very misleading,
2 MR. KARAGANIS: You have objected but you
3 have not instructed the witness not to answer.
4 MR. TENENBAUM: If I thought that you would
5 be taking the position that our failure to
6 instruct the witness not to answer would waive
7 any other instructions not to answer, I would
8 have instructed him not to answer any other
9 questions, too.
10 MR. KARAGANIS: Are you instructing the
11 witness not to answer?
12 MR. TENENBAUM: I did already.
13 BY MR. KARAGANIS:
14 Q. Could you answer the question, Mr.
15 Boice, if your counsel allowed you to?
16 A. Yes.
17 Q. Mr. Boice, has any calculation been
18 made as to the quantity of material that you
19 have identified as what you called subject to
20 local dewatering?
21 MR. TENENBAUM: Same objection and
22 instruction.
23 MR. KARAGANIS: Are you instructing the
24 witness not to answer that question as well?

1 MR. TENENBAUM: Yes.
2 BY MR. KARAGANIS:
3 Q. Could you answer the question if your
4 counsel allowed you to?
5 A. Yes.
6 Q. Would you mark this as Exhibit 63,
7 please.
8 (The document above-referred to
9 was marked Boice Deposition
10 Exhibit No. 63 for identification.)
11 Let the record show that Exhibit 63,
12 Boice Deposition Exhibit 63, is the health
13 assessment for Midwest Industrial Waste Disposal
14 Company, Midco II site, Gary, Indiana, December
15 1, 1988, prepared by -- I take it it was
16 prepared by the ATSDR; is that correct?
17 A. That's correct.
18 Q. With respect to any immediate or
19 emergency health threat, did ATSDR in Boice
20 Deposition Exhibit 63 recommend any immediate
21 action?
22 MR. TENENBAUM: Did you show this document
23 to the witness?
24 A. I would have to read it.

1 MR. TENENBAUM: Can you read back the
2 question.
3 (The record was read.)
4 BY MR. KARAGANIS:
5 Q. Mr. Boice, have you had a chance to
6 read it?
7 A. No, I haven't read it.
8 Q. Have you read it previous to this
9 deposition?
10 A. Yes, I have. But it's been a little
11 while.
12 MR. TENENBAUM: Off the record.
13 (Discussion had off the record.)
14 BY MR. KARAGANIS:
15 Q. Can we get an answer to an outstanding
16 question?
17 A. What was the question.
18 Q. Read the question back, please.
19 (The record was read.)
20 MR. TENENBAUM: Objection.
21 MR. KARAGANIS: Objection is noted.
22 Q. Answer the question.
23 A. No. They didn't recommend any
24 immediate action.

1 Q. Mr. Boice, is there anything with
2 respect to an imminent and substantial
3 endangerment that exists at the site today that
4 is different than 1983?
5 MR. TENENBAUM: Objection, seeks discovery
6 on a record issue. Instruct the witness not to
7 answer.
8 Off the record.
9 (Discussion had off the record.)
10 Back on the record.
11 As I did with respect to when you asked
12 for Midco I, I believe I objected, instructed
13 the witness not to answer. I will have to do
14 the same for this.
15 BY MR. KARAGANIS:
16 Q. If you were allowed to answer the
17 question, Mr. Boice, would you be able to answer
18 the question, absent the direction by your
19 counsel?
20 A. What was the question?
21 Q. Is there anything different with
22 respect to imminent and substantial endangerment
23 at the site today, the Midco II site, than
24 existed in December of 1983?

1 MR. TENENBAUM: Same objection, also seeks
2 expert testimony.
3 A. Yes, I could answer.
4 MR. TENENBAUM: And a legal conclusion.
5 MR. KARAGANIS: The instruction was not to
6 answer, right?
7 MR. TENENBAUM: Yes.
8 MR. BERMAN: Could we take a break so we can
9 organize the record, if nothing else?
10 MR. KARAGANIS: Yes.
11 Organize the record and get it out of
12 here.
13 MR. BERMAN: Thank you.
14 (Whereupon a short recess was had.)
15 BY MR. KARAGANIS:
16 Q. Mr. Boice, why don't I ask you the
17 question while you are packing the boxes to move
18 things along.
19 Mr. Boice, are you familiar with
20 technologies used by USEPA to prevent contact
21 with the soil at hazardous waste sites?
22 MR. TENENBAUM: Hold it a second. Off the
23 record.
24 (Discussion had off the record.)

1 MR. TENENBAUM: Objection.

2 Instruct the witness not to answer,

3 unless the questioner can proffer a basis to put

4 it into a non-record issue.

5 MR. KARAGANIS:

6 Q. Mr. Boice, do you remember the

7 question?

8 A. No.

9 Q. Mr. Boice, are you familiar with

10 technologies used by the United States

11 Environmental Protection Agency to protect

12 against soil access at sites that handle

13 hazardous wastes?

14 A. Yes.

15 Q. Mr. Boice, with respect to licensed

16 operating hazardous waste sites, which have

17 hazardous waste at concentrations equal to or

18 greater than those at the Midco sites, which

19 have been deposited in prior years, does EPA

20 require the solidification of previously

21 deposited hazardous waste?

22 MR. TENENBAUM: Same objection and

23 instruction.

24 A. This is for a RCRA site?

1 BY MR. KARAGANIS:
2 Q. Yes.
3 MR. TENENBAUM: Objection, instruction not
4 to answer.
5 He wants to know whether you know the
6 answer.
7 A. Do I know the answer?
8 BY MR. KARAGANIS:
9 Q. Yes.
10 A. I think so.
11 Q. Could you answer the question if your
12 counsel allowed you to?
13 A. Yes.
14 Q. Mr. Boice, when Mr. Fort was examining
15 you, he recessed his examination with discussion
16 about Boice Deposition Exhibit No. 55, which is
17 a letter from various representatives of the
18 Midco trustees to you regarding PCB spillage.
19 Are you familiar with that?
20 A. I know I have read this letter. Yes.
21 Q. And are you aware that there was
22 concern, factual allegations that there had been
23 PCB spillage by EPA contractors or release of
24 PCBs by EPA contractors?

1 MR. TENENBAUM: I thought we weren't going
2 to cover the stuff other questioners covered.
3 MR. KARAGANIS: He didn't finish it. He
4 didn't get into it. That was the last area that
5 he was opening up and he didn't finish.
6 Q. Are you familiar with such allegations?
7 A. I am familiar with this letter.
8 Q. Did you ever investigate as to whether
9 EPA's conduct caused a release of PCBs at the
10 site or the conduct of EPA contractors?
11 MR. TENENBAUM: Objection, no foundation.
12 BY MR. KARAGANIS:
13 Q. Go ahead.
14 A. We referred the letter to our removal
15 branch, emergency response branch, and they
16 addressed the question.
17 Q. How did they address the question?
18 MR. TENENBAUM: Only say what you know.
19 A. I know they prepared a memo on it.
20 BY MR. KARAGANIS:
21 Q. Is that memo in the index, the record
22 index, Boice Deposition Exhibit 3?
23 A. No.
24 Q. Did they send the memo to the PRP's?

1 A. That might have been included in those
2 documents we sent to you.
3 Q. Which documents you sent to me?
4 A. The documents that were sent to -- who
5 is it now, Mike Hill recently.
6 MR. TENENBAUM: We are arranging with Mr.
7 Fort -- not Mr. Fort, but counsel for Desoto --
8 Off the record.
9 (Discussion had off the record.)
10 Counsel for Desoto indicated that he
11 didn't have any problem with us sending a second
12 copy, sending a second copy of the documents
13 sent to Mr. Hill to you, Mr. Karaganis, so we
14 will be sending you that. Whether it includes
15 this, I don't know, but it might.
16 BY MR. KARAGANIS:
17 Q. Mr. Boice, with respect to the
18 solidified material, are you aware of any
19 studies or information indicating that
20 solidification may not be successful?
21 MR. TENENBAUM: Objection, instruct the
22 witness not to answer, unless the questioner can
23 proffer a basis that is relevant to a non-record
24 issue.

1 MR. KARAGANIS: Look, I have been through
2 this before. I think it is central to the
3 question of justification and compliance with
4 the NCP.
5 MR. TENENBAUM: I think that under your --
6 BY MR. KARAGANIS:
7 Q. Mr. Boice, if you were allowed to
8 answer the question, could you?
9 A. Yes.
10 Q. Mr. Boice, let's mark this 64. I am
11 sorry, I will check that. Yes, 64.
12 (The document above-referred to
13 was marked Boice Deposition
14 Exhibit No. 64 for identification.)
15 Let the record show that Boice Exhibit
16 64 is a document entitled, "Superfund fact sheet
17 for Midco I and Midco II."
18 Mr. Boice, I show you what has been
19 marked as Boice Deposition Exhibit 64. Is this
20 the so-called public notice document that ERM
21 responded to?
22 A. It is called the proposed plan, and
23 yes, the May 19, 1989 comments from ERM were in
24 response to this proposed plan.

1 Q. Mr. Boice, with respect to Exhibit 64,
2 it says here, "Will contaminants of potential
3 public health concern -- " then there is a
4 table, "Comparison of remedial remedies --
5 remain in the soil or groundwater," under
6 remedies 7 and 8.
7 I take it, are those the same 7 and 8
8 that are in the FS as 7 and 8?
9 A. That's correct.
10 Q. The answers are "no" and "no" at Midco
11 I and Midco II. Is that correct?
12 A. That's correct.
13 Q. All right.
14 With respect to the area underneath the
15 watertable, is it your statement that there will
16 not be contaminants of potential health concern
17 under the groundwater under alternatives 7 and
18 8?
19 MR. TENENBAUM: Objection, seeks to take
20 discovery into record issues.
21 I have to instruct the witness not to
22 answer, unless the questioner can indicate how
23 it is relevant to a non-record issue.
24 MR. KARAGANIS: I have indicated how it is

1 relevant to the basic issues in the case, but I
2 am not going to go through that litany again. I
3 am trying to move along.
4 Q. Mr. Boice, if you were allowed to
5 answer the question by your counsel, would you
6 be able to answer the question?
7 MR. TENENBAUM: I guess to the extent it is
8 relevant to the impression of bad faith issue,
9 you can answer.
10 A. I don't see any relevance to the bad
11 faith issue.
12 MR. KARAGANIS: Are you instructing the
13 witness not to answer?
14 MR. TENENBAUM: Unless you can proffer a
15 basis --
16 BY MR. KARAGANIS:
17 Q. Mr. Boice, if you were allowed to
18 answer by your counsel, would you be able to
19 answer the question?
20 A. Yes.
21 Q. Mr. Boice, with respect to the soils
22 above the groundwater table, is it your position
23 that the concentrations remaining in the soil
24 for alternatives 7 and 8 would not be a public

1 health concern?
2 MR. TENENBAUM: Same objection and
3 instruction.
4 BY MR. KARAGANIS:
5 Q. Mr. Boice, if you were allowed to
6 answer the question, could you?
7 A. Yes.
8 Q. Mr. Boice, with respect to the
9 so-called solidified material, could someone
10 wanting to eat the material eat it?
11 MR. TENENBAUM: Objection. Instruct the
12 witness not to answer, unless the questioner can
13 state a basis that's relevant to a non-record
14 issue.
15 MR. KARAGANIS: It is a basic question. Can
16 somebody eat the solidified material.
17 MR. TENENBAUM: Same instruction.
18 BY MR. KARAGANIS:
19 Q. Mr. Boice, could you answer the
20 question, if you were allowed to by your
21 counsel?
22 A. Yes.
23 MR. KARAGANIS: Mr. Tenenbaum, I have a
24 number of questions that remain. I also have a

1 number of questions that await the judge's
2 ruling, and a number of questions that relate to
3 material that currently has not been supplied,
4 including material that I have asked for that
5 are on documents that we have identified.
6 MR. TENENBAUM: What material are you
7 talking about?
8 MR. KARAGANIS: That material includes the
9 documents in Exhibit 56 and 57, it includes the
10 risk-based documents.
11 MR. TENENBAUM: Just a second.
12 MR. KARAGANIS: Excuse me.
13 It includes the documents on the
14 removal, which are the second removal at Midco
15 II. We have received only two documents today.
16 Those documents postdate the removal. And we
17 received the December 3, '87 action memorandum
18 and the July 13, '88 action memorandum.
19 MR. TENENBAUM: What is 56 and 57?
20 MR. KARAGANIS: 56 is the tables 1 and 2.
21 MR. TENENBAUM: Those have been produced.
22 You mean the tables from the
23 interrogatories?
24 MR. KARAGANIS: Yes.

1 deposition. I didn't receive them. I intend to
2 ask questions about them.
3 MR. TENENBAUM: You did not ask for them at
4 the last deposition that I recall. We indicated
5 to you that they had been previously produced to
6 you.
7 MR. KARAGANIS: I did. And I asked that
8 they be identified.
9 That's one of the reasons you asked me
10 to produce a list of the documents that weren't
11 in the record.. I did.
12 I expect to ask further questions of
13 Mr. Boice -- would you let me finish, please.
14 I expect to ask further deposition
15 questions of Mr. Boice with regard to the
16 documents that haven't been produced. Also the
17 documents that haven't been produced with
18 respect to the Midco II removal.
19 And also with regard to the voluminous
20 number of questions for which you have
21 instructed the witness not to answer.
22 While I previously had given you my
23 word that pending further motion or court
24 determination on that, I would not seek to

1 extend this deposition further on a voluntary
2 basis. I will seek court compulsion with
3 respect to it. Mr. Boice is not finished and I
4 am not adjourning the deposition, I am simply
5 going into recess.
6 MR. TENENBAUM: That's not acceptable to the
7 United States.
8 Mr. Boice has been present for ten days
9 in a deposition by multi-questioners, and you
10 have overlapped their questions to a great
11 degree.
12 MR. KARAGANIS: Mr. Tenenbaum, if I can --
13 MR. TENENBAUM: May I finish?
14 MR. KARAGANIS: About 60 percent of the
15 depositions have been your objections and
16 instructions not to answer.
17 MR. TENENBAUM: If I may finish, please.
18 That is because, whatever, the record
19 will speak for itself. But, the questioners
20 insisted on asking questions that were pending
21 before the court and they knew very well were
22 subject to objection in many circumstances.
23 The witness has patiently stood by for
24 ten days of questioning and that is more than

1 enough to satisfy any obligations of the Agency.
2 This witness is not produced as a
3 witness for removal in any event. I don't know
4 what your problems are with removal documents.
5 We have indicated repeatedly he is not
6 somebody who is designated as a removal witness.
7 He didn't work on the removal. The documents
8 have all been produced to you previously.
9 If there are any documents that have
10 not been produced to you previously, then we
11 will certainly entertain any requests that you
12 have with respect to a document that turns out
13 not to have been produced to you. If it is
14 within this witness' area of knowledge, we will
15 take that up when it occurs. But, otherwise, as
16 far as we are concerned, the deposition will be
17 finished.
18 I do have a couple of questions on
19 cross, however.
20 MS. BULLEN: Let me say something for the
21 record; that is, representing the defendant
22 Standard T Corporation, that based upon the
23 responses that we have heard from Mr. Boice, we
24 do also have a number of questions.

1 Understanding the government's
2 position, we just, however, want to state for
3 the record an objection to concluding the
4 deposition today and indicate that again based
5 on his responses we did have some follow-up
6 questions.
7 MR. KARAGANIS: I believe Mr. Fort has
8 indicated he would have follow-up questions and
9 I am sure other defendants as well.
10 MR. TENENBAUM: I am sure that the many
11 questioners who have already had multiple rounds
12 of questioning would have an indefinite number
13 of multiple additional rounds if the opportunity
14 was available to them.
15 I am sure that is the case. And we
16 would object to such multiple rounds of
17 questioning even on top of the already multiple
18 grounds that have already occurred.
19 Let me just ask a handful of cross
20 examination questions, if I could.
21 Off the record.
22 (Discussion had off the record.)
23 Back on the record.
24

1 CROSS EXAMINATION
2 BY MR. TENENBAUM:
3 Q. We have made a copy of Deposition
4 Exhibit 3 from Mr. Karaganis' copy of Deposition
5 Exhibit 3. I will show you that, Mr. Boice.
6 If you could turn to the Midco I
7 materials, update number 2, document number 18
8 dated 7/11/89, please.
9 At the top of the page, it says in your
10 handwriting, I believe subject to my objection,
11 you were required to write on the top of the
12 page which ROD some of these materials were in.
13 At the top of this page it reads,
14 "Midco I 106 and Midco I ROD," does it not?
15 A. Correct.
16 Q. Is document number 18 in the Midco I,
17 106 ROD, the Midco I -- strike that.
18 Is document 18 in the Midco I 106
19 record, the Midco I ROD record or both?
20 MR. KARAGANIS: Wait a minute. You have
21 asked as to three different records, and there
22 are only two records with respect to Midco I.
23 You asked with respect to the Midco record,
24 there is no Midco record. There is a Midco ROD

1 record and a Midco 106 record.
2 MR. TENENBAUM: The question was as I
3 believe I clearly stated.
4 Q. Is this document in the Midco I 106
5 record, the Midco I ROD record or both?
6 A. It is only in the Midco I 106 record.
7 Q. Okay.
8 With respect to calling your attention
9 to document number 19 on the same page dated
10 8/23/89.
11 It is on the same page, document 19, or
12 is it the next page?
13 A. Next page.
14 Q. Next page, dated 8/23/89. Is that
15 document in the Midco I 106 record, the Midco I
16 ROD record or both?
17 A. Only the Midco I 106 record.
18 Q. Calling your attention to the document
19 number 25, in update number 2, dated 9/1/89. Is
20 that document in the Midco I 106?
21 MR. KARAGANIS: I am sorry.
22 Would you please repeat the identity of
23 the document?
24 MR. TENENBAUM: Document number 25, dated

1 9/1/89.
2 Q. Is that document in the Midco I 106
3 record, the Midco I ROD record or both?
4 A. Only in the Midco I 106 record.
5 Q. Calling your attention to document
6 number 27 in the update 2, dated 9/6/89.
7 Is that document in the Midco I 106
8 record, the Midco I ROD record or both?
9 MR. KARAGANIS: Which document are you
10 referring to?
11 MR. TENENBAUM: 27, dated 9/6/89.
12 MR. KARAGANIS: With respect to a consent
13 decree?
14 MR. TENENBAUM: It says enclosed attachment.
15 A. That is only in the Midco I 106 record.
16 Q. Okay.
17 Calling your attention to update number
18 4, in this particular copy of Exhibit 3 of the
19 Midco I materials, is there a page missing from
20 update number 4 based on your review of that?
21 A. Yes, or bad photocopied.
22 Q. Is the photocopying problem in that
23 the -- can you read in the record what it says
24 on the part that you have here in front of you?

1 A. It says, "sampling data index for two
2 superfund sites may be reviewed at Chicago,
3 Illinois."
4 Q. What else?
5 A. "Recipient document sampling data."
6 Q. It is the right side?
7 A. It looks like it is just the right side
8 of the page.
9 MR. KARAGANIS: If there is a page missing
10 in the exhibit, will you produce it? The
11 exhibit was supposed to be an exact copy of your
12 certification.
13 MR. TENENBAUM: This is your copy of the
14 exhibit.
15 Now, whether the official exhibit copy
16 has this problem or not is something that we
17 will have to look at. We don't have the
18 official exhibit copy here. I don't believe the
19 court reporter has brought it with him.
20 MR. KARAGANIS: The question is, have you
21 checked to see whether the document you
22 certified to the court has the page missing.
23 Or, if there is a missing page, let's clear it
24 up as to where it is missing.

1 MR. TENENBAUM: We will need to check to see
2 whether the original Exhibit 3 that the court
3 report has, has this problem. If it does, we
4 will need to see whether the court has the
5 problem.
6 In any event, all of this is probably
7 mooted by the fact that we have submitted an
8 amended or revised certification to the court
9 this week. But, let me continue.
10 MR. KARAGANIS: You have got another updated
11 certification?
12 MR. TENENBAUM: It is based on the materials
13 that have already been made exhibits to this
14 deposition. Nothing new, you all know about it.
15 MR. KARAGANIS: No, I don't know about it.
16 MR. KEATING: I didn't know about it.
17 MR. KARAGANIS: I didn't know about it.
18 Let's not sandbag after his deposition is done.
19 MR. TENENBAUM: It is nothing new.
20 MR. KARAGANIS: What do you mean it is
21 nothing new?
22 MR. TENENBAUM: You already filed a motion
23 relating to it. You moved to strike the
24 existing administrative record based on the

1 memorandum that we provided you.

2 At his prior round of this deposition,

3 you are fully aware of it, he has been

4 questioned on it in great detail.

5 If I may continue.

6 MR. KARAGANIS: You are not talking about a

7 revised certified index that includes the

8 documents that have been identified as missing

9 in my deposition of Mr. Boice?

10 MR. TENENBAUM: The revised certified index

11 I don't believe adds any additional documents to

12 the index. It makes minor technical changes as

13 was evidenced in the memoranda that are already

14 exhibits to this deposition.

15 If there are any documents that you

16 contend belong in the record, I have not heard

17 you make that contention. I have just heard you

18 make a lot of questions about things that are in

19 the record.

20 MR. KARAGANIS: Anything that relates to

21 public health at these two sites should be in

22 the record, and it is not our obligation to put

23 them in there, it is yours.

24 MR. TENENBAUM: I would renew my offer to

1 make a request in an appropriate fashion for
2 such documents.
3 MR. KARAGANIS: Just so you have the
4 question clear, everything, my request is
5 everything that is in Exhibit 56 be included in
6 your so-called records, and you can then select
7 which record you want it to be in, but it better
8 be in one of them.
9 MR. TENENBAUM: That's your position. And
10 if you don't want to expound upon it or send us
11 a letter on that, we will take it under
12 advisement.
13 If we want to, we will respond to that
14 just based on your oral request, if I can figure
15 out exactly what your request is and what the
16 basis for it is.
17 MR. KARAGANIS: Just so the record is clear,
18 it is obvious from the deposition that these
19 documents relate to public health concerns and
20 endangerment at Midco I and Midco II.
21 They are not in the record, any of the
22 records with respect to endangerment or the
23 conditions at the site. They should be in the
24 record.

1 A. They don't --,
2 MR. TENENBAUM: Hold it. Hold it. There is
3 no question pending.
4 We will take your request under
5 advisement. And I will note, though, that many
6 of the defendants would object to the addition
7 of more documents in the record.
8 They complained there is too many in
9 there already. Maybe you should resolve that
10 with your other defendants.
11 If I could continue. It is going to
12 be -- we will take -- as we have repeatedly
13 indicated, we are interested in listening to
14 anything the defendants have to say on
15 additional items that are in the record.
16 It is a little bit difficult to respond
17 when they just carte blanche say hundreds of
18 documents belong in the record. But, we will
19 see what we can do with your request and whether
20 or not it has any merit to it.
21 Q. The question, then, is with respect to
22 the page which is copied and has a copying
23 problem, that is in front of you?
24 A. Yes.

1 Q. Just so there is no confusion, I guess
2 I will ask that that page be marked as
3 Deposition Exhibit 65. If the court reporter
4 could mark that as Exhibit 65.
5 (The document above-referred to
6 was marked Boice Deposition
7 Exhibit No. 65 for identification.)
8 Is there a page similar to that page in
9 the Midco II materials in Exhibit 3?
10 A. Yes.
11 Q. Could you find that, please?
12 Could you describe that for the record,
13 what you have found?
14 A. It identifies --
15 MR. KARAGANIS: Are you now referring to
16 another page, other than 65?
17 A. Yes.
18 MR. TENENBAUM: We are referring to a page
19 in the Midco II portion of the materials.
20 MR. KARAGANIS: Would you mark it?
21 MR. TENENBAUM: I will have that marked as
22 Exhibit 66.
23 (The document above-referred to
24 was marked Boice Deposition

1 Exhibit No. 66 for identification.)
2 Q. Now, with respect to the page in the
3 Midco I materials that is similar to Boice
4 Deposition Exhibit 66, part of which we have in
5 front of us as Boice Deposition Exhibit 65, does
6 that item that appears on -- the item that
7 appears on that page, is that part of the Midco
8 I 106 record, Midco I ROD record or both?
9 A. Well, the first item, which is the data
10 validation worksheets available at Geosciences
11 Research Associates, properly belong to both
12 administrative records.
13 The discharge monitoring reports from
14 the City of Gary, City of Hammond and the City
15 of East Chicago for April and May 1989 should
16 probably be part of both administrative records.
17 However, the discharge monitoring
18 reports for June 1989 should only be in the
19 Midco I 106 administrative record.
20 Q. As for Boice Deposition Exhibit 66,
21 with respect to the discharge monitoring reports
22 for June of 1989, are those part of the Midco II
23 106 record, the Midco II ROD record or both?
24 A. Those should only be in the Midco II

1 106 record.
2 Q. If you could turn to for the Midco II
3 update 2, document number 35.
4 MR. KARAGANIS: What is the date on the
5 document?
6 MR. TENENBAUM: 8/23/89.
7 Q. Is that document in the Midco II 106
8 record, the Midco II ROD record or both?
9 A. That document should only be in the
10 Midco II 106 record.
11 Q. Okay.
12 MR. KARAGANIS: Are you referring to the
13 addressee there being Gade?
14 A. Yes. But, that is wrong. I think
15 Mary -- that is one thing that has been changed
16 in the revised record, I think.
17 BY MR. TENENBAUM:
18 Q. One of the technical corrections is
19 that in the revised record, the author may be
20 different?
21 A. Yes. No, the recipient.
22 Q. The recipient, okay. Whatever it is,
23 the revised record will speak for itself.
24 The question, though, is for that item

1 number 5, that is in the Midco II 106 record, is
2 that what your answer was?
3 A. Yes.
4 BY MR. KARAGANIS: Can we go off the record
5 a minute.
6 (Discussion had off the record.)
7 MR. TENENBAUM: The copy that we have in
8 front of us, which is copied from Mr. Karaganis'
9 version of Exhibit 3, is it missing document
10 numbers 8 through 14.
11 MR. KARAGANIS: Are you referring to a
12 specific page? Please mark it as an exhibit.
13 MR. TENENBAUM: Well, the page is missing.
14 I will mark the page before and the page after
15 as Exhibit 67.
16 MR. KARAGANIS: All right.
17 BY MR. TENENBAUM:
18 Q. Are there document numbers missing in
19 between the two pages that have been marked as
20 Boice Deposition Exhibit 67?
21 A. Yes.
22 Documents number 8 through 14 are
23 missing from the update number 2.
24 MR. TENENBAUM: Please mark it as 67.

1 MR. KARAGANIS: Yes, please mark it as
2 Exhibit 67. These are going to be the missing
3 exhibit exhibits.
4 (The document above-referred to
5 was marked Boice Deposition
6 Exhibit No. 67 for identification.)
7 BY MR. TENENBAUM:
8 Q. As to those document numbers that would
9 be on that page, are the documents, some or all
10 of those documents, found in the Midco I
11 material?
12 A. Two of them were found in the Midco I
13 that you just indicated.
14 MR. KARAGANIS: When you say Midco I
15 materials, which Midco I record are we referring
16 to?
17 MR. TENENBAUM: That is just what I was
18 going to ask him for items 25 and 27 that we
19 previously went over in the Midco I materials.
20 Q. Do you recall that?
21 A. Yes.
22 Q. The 9/1/89 matter and the 9/6/89 --
23 A. Yes.
24 Q. -- matter.

1 Those documents, do you believe those
2 are also in the Midco II materials on the
3 missing page?
4 MR. KARAGANIS: When you say Midco II
5 materials, which Midco II records are you
6 referring to?
7 MR. TENENBAUM: You asked for as to the
8 9/1/89 document and the 9/6/89 document.
9 Q. Are they part of the Midco II 106
10 record, the Midco II ROD record or both?
11 A. That would be part of the Midco II 106
12 record, if they are in the record.
13 Q. I have one question. Of course, all
14 this is to just clarify matters that some of the
15 questioners have unfortunately confused to some
16 extent, and we are not waiving any of our
17 objections that we have made to the questions
18 when they were asked.
19 With respect to the ambiguous questions
20 that Mr. Karaganis asked --
21 MR. KARAGANIS: Objection.
22 MR. TENENBAUM: -- on cleanup action levels.
23 MR. KARAGANIS: Objection as to the
24 characterization of any questions I asked.

1 If you have got a question to ask the
2 witness, ask it.
3 MR. KEATING: You have to wait until he asks
4 the question because you don't know which
5 ambiguous ones he is asking about.
6 MR. TENENBAUM: Let me withdraw that preface
7 and just ask you this question.
8 I do want to say that I am preserving
9 all objections to this line of questioning. I
10 ask it only, of course, because I believe there
11 has been some confusion introduced.
12 The question is as follows:
13 Q. Will the EPA selected remedy meet the
14 cleanup action levels for soil that are
15 established in the ROD's for Midco I and Midco
16 II?
17 A. Yes.
18 By solidifying all the soils that
19 exceed the cleanup action levels into a solid
20 matrix, reduce the mobility of at least a large
21 number of the compounds, and prevent it --
22 remove it from the direct contact threat,
23 contact with wildlife and protect against
24 leaching to the groundwater.

1 MR. TENENBAUM: Thank you.
2 MR. KARAGANIS: Are you done?
3 MR. TENENBAUM: I am done.
4 MR. KARAGANIS: I have a little redirect.
5 Thank you for opening it up.
6 MR. TENENBAUM: I have not opened it up.
7 MR. KARAGANIS: The hell you haven't.
8 MR. TENENBAUM: I said that I was reserving
9 all of my objections.
10 MR. KARAGANIS: You reserved all your
11 objections.
12 You went to the heart of the
13 questioning. You have now opened up a question
14 that said --
15 MR. TENENBAUM: No, I have not.
16 MR. KARAGANIS: Will EPA's ROD remedy meet
17 the cleanup action levels for soil, a central
18 question. You instructed the witness not to
19 answer on a lot of it. You have got a nice
20 question.
21 MR. TENENBAUM: I did not instruct the
22 witness not to answer all those questions.
23 You introduced elements of confusion by
24 ambiguous questions. I clarified the record to

1 the extent subject to those objections.

2 I am going to object as to follow-up

3 questions.

4 MR. KARAGANIS: I want to pursue it.

5 MR. TENENBAUM: I will allow him to answer

6 to the extent, that is, that I allowed him to

7 answer before.

8 MR. KEATING: I would like to ask a question

9 or two about that last one where wildlife is

10 starting to eat the solidified stuff.

11 REDIRECT EXAMINATION

12 BY MR. KARAGANIS:

13 Q. Mr. Boice, could individuals eat the

14 solidified material?

15 MR. TENENBAUM: Same objection and

16 instruction as before.

17 MR. KARAGANIS: You have just had this

18 witness testify on your cross examination on a

19 question that was central to that. You said why

20 will the CAL's for soil be met.

21 MR. TENENBAUM: I did not say why they will.

22 I said will they be met.

23 MR. KARAGANIS: He went into an explanation.

24 MR. TENENBAUM: It was a confusing question.

1 MR. TENENBAUM: I told you I was reserving
2 all objections, and I continue to reserve all
3 objections.
4 MR. KARAGANIS: You know have opened it up.
5 MR. TENENBAUM: I have not opened up
6 anything.
7 MR. KARAGANIS: This whole area where you
8 have instructed this witness not to answer.
9 MR. TENENBAUM: I have not opened up
10 anything.
11 MR. KEATING: If I can make an objection.
12 My argument might be argumentative enough. The
13 witness has given an opinion. The witness has
14 given an opinion. And we have a right to cross
15 examine him on the opinion that he has given.
16 He has given an opinion that
17 solidification will create a certain condition
18 and will meet the CAL's, it will help wildlife,
19 it will prevent toxic waste or whatever it is
20 called.
21 MR. KARAGANIS: Direct contact.
22 MR. KEATING: Direct contact. I think it is
23 with the soil. Excuse me, with the water. I am
24 not sure about that part of it.

1 But, we have a right, I was going to
2 ask that the question and the answer be read.
3 MR. TENENBAUM: You don't have a right. Are
4 you done?
5 MR. KEATING: No.
6 But, you know, we have a right to ask
7 him about what he means by his opinion.
8 Now that is different than record
9 review. If he can go in front of a judge and
10 say to the judge I believe that this
11 solidification will cure these ills, we have a
12 right to ask why.
13 MR. TENENBAUM: Absolutely, if he is going
14 to go before the court and say that.
15 MR. KARAGANIS: He just did. This is an
16 evidence deposition under the federal rules.
17 MR. TENENBAUM: No, it isn't. Your analysis
18 is not correct.
19 MR. KEATING: What if he dies -- he doesn't
20 look too good at that -- what if he dies and you
21 use this during trial. How are we going to
22 cross examine him on it?
23 MR. TENENBAUM: You have already asked him
24 questions on this subject, and to the extent

1 that you tried to convince me that I shouldn't
2 instruct him not to answer, do you expect me
3 then not to be able to cross examine him?
4 MR. KARAGANIS: Alan, no one stopped you for
5 cross examination.
6 MR. TENENBAUM: What if he dies before I can
7 cross examine him.
8 MR. KARAGANIS: Fine. The fact is that you
9 have taken a position where you have been caught
10 on the breadth of your constant instructions not
11 to answer, you tried to back off of some of
12 that.
13 In doing so, you opened up an area and
14 you wanted to cover it on cross examination.
15 You have now opened up, as Mr. Keating has just
16 said, you solicited an opinion from this
17 witness, which we have a right to examine on.
18 It now stands as an evidentiary opinion.
19 MR. TENENBAUM: No, you don't. Let me tell
20 you why, amongst many other reasons.
21 (Conference between the witness and his
22 counsel.)
23 MR. KARAGANIS: He is giving the lawyer
24 instructions. Okay.

1 MR. TENENBAUM: No. Let me tell you why.
2 I have indicated as a preface to my
3 question that I was reserving all objections.
4 If my objections to your questions hold up, then
5 this doesn't go anywhere.
6 MR. KARAGANIS: If your objection holds up,
7 then your cross examination is a nullity, if
8 your objections don't hold up, we are going to
9 good into the same area.
10 MR. TENENBAUM: If my objections don't hold
11 up --
12 MR. KARAGANIS: Then the cross is alive.
13 MR. TENENBAUM: -- then the cross, I am
14 letting you cross him to the extent that it goes
15 into the areas I have already let you cross him
16 on.
17 This cross examination was only
18 designed to go to the questions that he was
19 allowed to answer.
20 MR. KARAGANIS: You instructed him not to
21 answer.
22 MR. TENENBAUM: He wasn't answering with
23 respect to that.
24 MR. KEATING: The issue, and I understood

1 what you were saying about the record review,
2 and we don't necessarily agree with that, but I
3 understand your position.
4 Then when you say all right, it is a
5 record-review issue, but I can solicit an
6 opinion on the record-review issue, you have
7 opened it up so that we could cross examine him
8 on the record-review issue.
9 MR. TENENBAUM: The witness has made similar
10 statements with respect to your questions. He
11 was allowed to answer those subject to my
12 objection. You cannot tell me that I am not
13 allowed to cross examine the witness when you
14 ask ambiguous questions.
15 MR. KARAGANIS: Nobody said you couldn't.
16 MR. TENENBAUM: I am entitled to ask him
17 questions on cross.
18 MR. KARAGANIS: I invited you to ask him.
19 MR. TENENBAUM: You can save your questions
20 for cross.
21 MR. KARAGANIS: I invited you to ask him.
22 You are perfectly entitled to inquire into this
23 area.
24 MR. TENENBAUM: If he were instructed not to

1 answer, the judge could rule on that at a later
2 time. You also told me I should cross examine
3 him if I don't like any of his answers on that.
4 You are trying to sandbag me.
5 MR. KARAGANIS: No, Alan, you have opened up
6 a very pertinent area.
7 MR. TENENBAUM: I have not opened it up. He
8 has not added anything that he didn't already
9 say in response to your questions.
10 MR. KARAGANIS: I wish to examine this
11 witness with respect to the area that you cross
12 examined on.
13 MR. TENENBAUM: You can cross examine him,
14 but it is going to be subject to the same
15 objections we made before.
16 MR. KEATING: The issue that we would cross
17 examine him on is his opinion and how he arrived
18 at an opinion.
19 MR. TENENBAUM: No. My question --
20 Can you read back the question I asked?
21 MR. KEATING: How about the answer? Read
22 real slow, because I am not good at writing a
23 lot.
24 (The record was read.)

1 (Whereupon a short recess was had.)
2 MR. TENENBAUM: Back on the record.
3 Your contentions that there has been
4 some sort of a waiver is absurd. This is no
5 more of a waiver than it is a waiver for me to
6 allow him to answer subject to my objections,
7 rather than instruct him not to answer.
8 MR. KEATING: I am not saying it is a
9 waiver. That is not an issue at all.
10 MR. TENENBAUM: You suggested I have waived
11 something by opening it up.
12 MR. KARAGANIS: No. You have asked a
13 question and elicited an opinion. Mr.
14 Keating --
15 MR. TENENBAUM: I didn't do any such thing.
16 The record will speak for itself.
17 MR. KEATING: The record will say:
18 "Yes. By
19 solidification of all the
20 soils that exceeds the
21 cleanup action levels, a
22 solidification of --"
23
24 MR. KARAGANIS:

1 I am going to have to have his answer read back
2 to see whether or not I am going to let him
3 answer.
4 (The record was read as
5 follows:
6 "A. Yes.
7 By solidifying all
8 the soils that exceed the
9 cleanup action levels into a
10 solid matrix, reduce the
11 mobility of at least a large
12 number of the compounds, and
13 prevent it -- remove it from
14 the direct contact threat,
15 contact with wildlife and
16 protect against leaching to
17 the groundwater.")
18 MR. TENENBAUM: Object to the form.
19 Objection to the extent it seeks to
20 take discovery on record issues or on expert
21 issues.
22 A. Well, as I stated before, it is clearly
23 stated in the ROD, the solidification is
24 contingent upon obtaining adequate results in

1 the treatability study, and I really can't
2 answer that question until the treatability
3 study is completed.
4 BY MR. KARAGANIS:
5 Q. Do you know based on available
6 knowledge, knowledge available to you, which
7 compounds are susceptible to solidification and
8 which are not?
9 MR. TENENBAUM: Same objections.
10 A. There is a lot of information on that
11 and some of it is in the ROD, including studies
12 which were conducted for determining the best
13 demonstrated available technologies for various
14 RCRA wastes, which shows that it is effective
15 for reducing the mobility or treating a number
16 of different metal contaminants.
17 BY MR. KARAGANIS:
18 Q. All right. So metals.
19 Is it effective for reducing the
20 mobility of volatile organics?
21 MR. TENENBAUM: Same objection.
22 A. No.
23 I think, as I have already stated it
24 during this testimony, that soil vapor

1 extraction would be used to treat the volatile
2 organic compounds and it is assumed that
3 solidification would not be effective in
4 treating volatile organic compounds.
5 BY MR. KARAGANIS:
6 Q. Okay.
7 And with respect to semi-volatiles, is
8 solidification an effective treatment method for
9 semi-volatiles?
10 MR. TENENBAUM: Same objection.
11 A. I have heard that it is effective.
12 Some tests have indicated it is effective on
13 some semi-volatile organic compounds, as far as
14 being a treatment method.
15 And it does -- would be successfully
16 demonstrated to be successful in solidifying
17 semi-volatile organic compounds into a solid
18 matrix.
19 BY MR. KARAGANIS:
20 Q. Do you know of any test results or
21 analyses relating to the lack of effectiveness
22 for semi-volatiles?
23 MR. TENENBAUM: Same objection.
24 A. I know there is a lot of data on it in

1 gone well beyond.
2 MR. KARAGANIS: I am talking about the basis
3 for his opinion.
4 MR. TENENBAUM: I am sorry.
5 The witness' testimony, as I understand
6 it, related to the questions that you were
7 asking on the interpretation of the ROD, the
8 questions that you had asked that were very
9 misleading.
10 I don't believe the witness was asked a
11 question as to his expert opinion about
12 anything. If he gave an expert opinion, I don't
13 know that he has, I don't believe he did.
14 But if he did, then it would be
15 stricken from the record, because it is not --
16 we are not pursuing expert testimony here. So I
17 am going to have to instruct the witness not to
18 answer.
19 BY MR. KARAGANIS:
20 Q. Mr. Boice, if you were allowed to
21 answer the question by your counsel, could you?
22 A. Yes.
23 Q. Mr. Boice, what areas with respect to
24 VOC's is soil vapor extraction to be used in?

1 BY MR. KARAGANIS:
2 Q. Mr. Boice, with respect to Midco I and
3 the vertical extent of the site, the vertical
4 depth of the site, where will soil vapor
5 extraction be used?
6 MR. TENENBAUM: Same objection and
7 instruction.
8 BY MR. KARAGANIS:
9 Q. Could you answer the question if your
10 counsel allowed you to?
11 A. Yes.
12 Q. Mr. Boice, with respect to Midco II,
13 where on the site will soil vapor extraction be
14 used?
15 MR. TENENBAUM: Same objection and
16 instruction.
17 BY MR. KARAGANIS:
18 Q. Could you answer the question if your
19 counsel allowed you to?
20 A. Yes.
21 MR. TENENBAUM: Again, I state for the
22 record that you seem to have misinterpreted the
23 witness' answer as giving an expert opinion.
24 MR. KARAGANIS: No one said, he gave an

1 MR. TENENBAUM: The question is --
2 Well, if you think you know, subject to
3 my objection, you can try and answer it.
4 A. You are asking whether -- I didn't
5 understand the question.
6 BY MR. KARAGANIS:
7 Q. You have got the solidified mass.
8 Are there conditions that can bring
9 someone into physical contact, direct contact
10 with the solidified mass so as to be a threat?
11 A. It is possible.
12 Q. How would that be?
13 A. I guess someone could get on the site
14 and dig into it with an air hammer or something.
15 Q. When you say dig into it with an air
16 hammer, can it be made accessible with something
17 less than an air hammer?
18 A. Maybe over a very long period of time.
19 Q. Are you aware of other methods to
20 remove the soils from the direct contact threat?
21 MR. TENENBAUM: Same objection, continuing
22 objection.
23 A. Yes. There is in-situ vitrification.
24 BY MR. KARAGANIS:

1 MR. TENENBAUM: Let me handle it this way.
2 The whole line of questioning and the
3 cross examination derived from your questions
4 relating to this witness' impression of bad
5 faith.
6 Now, some of that may indeed have had
7 something to do with cleanup action levels
8 relating to direct contact. So if you can limit
9 your answer to the issue of impression of bad
10 faith and the items that were discussed by ERM,
11 then maybe you can answer it.
12 Examination broader than that can only
13 get to record issues and is well beyond anything
14 on cross examination.
15 MR. KARAGANIS: Mr. Tenenbaum, he just
16 listed a number methods for removing soils from
17 a direct contact threat, one of which is
18 capping. I have an outstanding question.
19 MR. TENENBAUM: He didn't say whether they
20 worked and under what circumstances.
21 MR. KARAGANIS: This is a follow-up question
22 to say as to these, do you know of any
23 situations where EPA has used capping. Very
24 simple question.

1 MR. TENENBAUM: I don't see the connection
2 to either the impression of bad faith issue -- I
3 don't even see the connection to the cross
4 examination, which is limited to that issue in
5 any event. So, I don't really see how I can
6 allow him to answer that.
7 MR. KARAGANIS: Are you instructing the
8 witness to not answer the last question?
9 MR. TENENBAUM: Unless the witness can
10 answer that with respect to whether capping has
11 some relevance to the impression of bad faith of
12 ERM.
13 MR. KARAGANIS: Excuse me, Mr. Tenenbaum. I
14 am asking the questions, you are not.
15 My question is are you aware of
16 situations where EPA has used capping to remove
17 the direct contact threat from contaminated
18 soil.
19 If you are instructing the witness not
20 to answer, make your decision.
21 MR. TENENBAUM: Well, again, I am going to
22 instruct the witness to answer only with respect
23 to any possible relationship to the impression
24 of bad faith.

1 Do you understand what I am saying?
2 A. Yes.
3 MR. TENENBAUM: In other words, if capping
4 had something to do with ERM's change in
5 position from what they told you, if it is
6 related to that, you can talk about it.
7 A. I don't see any relationship to the --
8 to that issue.
9 MR. TENENBAUM: Okay.
10 BY MR. KARAGANIS:
11 Q. Mr. Boice, I will again ask you, are
12 you aware of any other sites, Superfund sites,
13 where EPA has used capping as the method for
14 removing contaminated soils from the direct
15 contact threat?
16 MR. TENENBAUM: Same objections and
17 instruction not to answer.
18 BY MR. KARAGANIS:
19 Q. Could you answer the question if your
20 counsel allowed you to?
21 A. Yes.
22 Q. Mr. Boice, are you familiar with RCRA
23 sites where EPA has used capping without
24 solidification as a means of protecting against

1 A. I guess I would have to refer you to
2 the report by US Fish & Wildlife Service.
3 Q. What report is that?
4 A. It is in the administrative record. It
5 is on the effect of the site on wildlife in the
6 area.
7 Q. Is there a concentration that you are
8 trying to protect the wildlife from?
9 A. We are assuming in the ROD that if we
10 protect for human contact, we will be protecting
11 for the wildlife also.
12 Q. Do you have any technical or scientific
13 basis for that?
14 MR. TENENBAUM: Same objection.
15 A. I think we do. I don't think we really
16 evaluated it closely.
17 BY MR. KARAGANIS:
18 Q. Isn't it a fact that sometimes the
19 wildlife criteria or standards are more
20 stringent than human standards?
21 MR. TENENBAUM: Same objection.
22 A. That's true.
23 BY MR. KARAGANIS:
24 Q. All right.

1 Now, do you have any basis in
2 scientific fact or analysis that the values you
3 have chosen for human contact are sufficient to
4 protect wildlife?
5 MR. TENENBAUM: Hold it a second.
6 This line of questioning is derived
7 from the issues of the impression of bad faith.
8 You have gone well beyond that.
9 Secondly, if you want to go into his
10 previous answer, that was talking about
11 solidification effect -- the effect of
12 solidification on contact with wildlife, and you
13 have gone beyond that, too.
14 MR. KARAGANIS: He said if it exceeds the
15 cleanup action level, it will protect as to
16 contact with wildlife. I am asking whether
17 those cleanup action levels will protect
18 animals. He said he said he assumed the human
19 values were sufficient to protect wildlife.
20 MR. TENENBAUM: That's your characterization
21 of what he said.
22 A. Do you want us to go to --
23 MR. TENENBAUM: Just a second.
24 If you want to ask him about how

1 solidification relates to removing contaminated
2 soils from contact with wildlife, I will subject
3 to my objections let him answer that.
4 But, anything beyond that, it is just
5 way off base.
6 MR. KEATING: Why don't you let him answer
7 it. Then ask him that question. He is going to
8 let you answer the question.
9 MR. TENENBAUM: I am going to object to it.
10 Then you will tell me I waive all sorts
11 of things by letting him answer. It is
12 ridiculous.
13 BY MR. KARAGANIS:
14 Q. Go ahead.
15 MR. TENENBAUM: You agree that I am not
16 waiving anything by letting him answer?
17 MR. KARAGANIS: I am not agreeing to
18 anything.
19 Q. Go ahead.
20 A. Well, by creating a solid mass, you
21 couldn't be -- it would -- if the cap was ever
22 disturbed for some reason or other, there would
23 be less surface area of contact with the wastes,
24 because it reduced the surface area by creating

1 a solid place that can't be blown away or spread
2 around and so forth.
3 BY MR. KARAGANIS:
4 Q. What about the material that is not
5 solidified? That is why I was asking you
6 before, is there any basis for assuming that the
7 level of protection that you have sought with
8 the soil CAL's is sufficient to protect
9 wildlife.
10 MR. TENENBAUM: What do you mean with
11 respect to the soil that is not solidified?
12 This whole line of questioning is relating to
13 soil that is solidified.
14 MR. KARAGANIS: He said he picked his
15 numbers for the soil that would be solidified
16 based on human values, not wildlife values.
17 MR. TENENBAUM: He didn't say --
18 MR. KARAGANIS: Yes, he did.
19 MR. TENENBAUM: He doesn't pick numbers,
20 anyway. The Agency is the one who does it. It
21 is not Mr. Boice.
22
23 BY MR. KARAGANIS:
24 Q. Go ahead, Mr. Boice.

1 MR. TENENBAUM: What is the question,
2 please?
3 (The record was read.)
4 I think that question is a non
5 sequitur, because the cleanup action levels that
6 we are talking about would only apply -- am I
7 not correct, they only apply to the soil
8 solidification, the ones we are talking about in
9 the ROD. So, there is a non sequitur to your
10 question, I think.
11 MR. KARAGANIS: No.
12 Q. Do you understand the question, Mr.
13 Boice?
14 A. Yes.
15 Q. Would you answer it, please?
16 MR. TENENBAUM: Same objection, vague
17 ambiguous as well.
18 A. This was reviewed by the US Fish &
19 Wildlife Service, as well as other people in EPA
20 who know something about environmental impacts,
21 and they passed on the remedy.
22
23 BY MR. KARAGANIS:
24 Q. You say they passed on the remedy?

1 A. They accepted it. They didn't provide
2 any comments that we should go to a lower action
3 level.
4 Q. So other than the fact that they simply
5 did not disagree, would it be a fair statement
6 that there is not a document in the record
7 saying these are the cleanup action levels
8 necessary for the protection of wildlife?
9 MR. TENENBAUM: Same objection.
10 A. That's correct.
11 BY MR. KARAGANIS:
12 Q. Now, when you say removing the soil
13 from the direct contact threat. What exactly is
14 the direct contact threat?
15 MR. TENENBAUM: Same objection.
16 A. That consists of if the site was
17 developed in the future for either industrial
18 use or residential use, the cap or whatever
19 cover was put on it could be disturbed, and the
20 wastes in the subsurface brought to the surface,
21 and people could be exposed via direct contact
22 with the skin or getting it on their hands and
23 then getting a small amount in their mouth
24 through touching their hands or through inhaling

1 dust. It is a whole scenario.
2 If the site is developed in the future
3 and there's contact through -- mainly the one of
4 most concern is the direct ingestion mode.
5 Q. The direct ingestion mode?
6 A. Yes.
7 Q. Okay.
8 That is somebody eating the material?
9 MR. TENENBAUM: Same objection.
10 A. That is, yes, maybe getting it on your
11 hands, then some of it gets into your mouth if
12 you puts your hands in your mouth, that type of
13 thing.
14 BY MR. KARAGANIS:
15 Q. And what person are we protecting
16 against, is there an identified group of persons
17 that we are worried about here?
18 MR. TENENBAUM: Same objection.
19 A. I think there would take more of an
20 expert testimony.
21 MR. TENENBAUM: Yes, I do think. I continue
22 my objection.
23 BY MR. KARAGANIS:
24 Q. Are you aware of the kind of person

1 that you were trying to protect from?
2 MR. TENENBAUM: Who is you? You mean the
3 Agency?
4 MR. KARAGANIS: His work on this matter.
5 MR. TENENBAUM: If you feel you don't have
6 the expertise to answer the question, then I
7 think he would want you to tell him that.
8 It is not an expert deposition in any
9 event.
10 MR. KARAGANIS: I am simply asking a
11 question of fact.
12 Was he trying to protect the eighty
13 year old grandmother or the forty year old
14 Justice Department lawyer who might be eating
15 soil out here, or was it a young child, or who
16 were we trying to protect.
17 MR. TENENBAUM: Object to the form as well
18 as the other objections I have previously made.
19 A. I think if you read the remedial
20 investigation and feasibility study, as well as
21 the ROD, you will get some understanding of
22 that. That is, basically it would be anyone who
23 would be working on the site.
24 BY MR. KARAGANIS:

1 Q. Would be working on the site?
2 A. Yes.
3 Q. So --
4 A. Or playing on the site.
5 Q. And how would this person be exposed to
6 subsurface soils?
7 MR. TENENBAUM: To subsurface soils?
8 MR. KARAGANIS: Yes.
9 MR. TENENBAUM: Same objection.
10 A. Well, in the future development
11 scenario, someone would disturb the cap, put in
12 a basement or something and spread the
13 contaminants that were in the subsurface around
14 the surface. Then there could be people who
15 could be exposed to it.
16 BY MR. KARAGANIS:
17 Q. Okay.
18 How deep would such an excavation, what
19 depth of excavation were you trying to protect
20 against?
21 MR. TENENBAUM: Hold it.
22 I have to object to this continual
23 phrasing of questions, what were you trying to
24 protect against, as --

1 MR. KARAGANIS: To his knowledge.
2 What depth was either he or his
3 colleagues within the Agency trying to protect
4 against, if he knows.
5 MR. TENENBAUM: Same objection.
6 A. Generally above the watertable.
7 BY MR. KARAGANIS:
8 Q. Is it possible in an excavation to
9 excavate materials that are below the
10 watertable?
11 A. Yes.
12 I think I stated in the ROD we were
13 going to excavate to the extent practicable
14 using localized dewatering techniques.
15 Q. I am sorry. Perhaps I didn't make my
16 question clear.
17 In future construction activities, is
18 it common for somebody building, digging a
19 foundation, to dig into the watertable?
20 MR. TENENBAUM: Same objection.
21 A. I don't know.
22
23 BY MR. KARAGANIS:
24 Q. I take it you determined that capping

1 was not sufficiently protective device to
2 prevent direct contact, correct?
3 MR. TENENBAUM: Object to the form and the
4 same objections that I made earlier.
5 A. It doesn't have anything to do with the
6 impression of bad faith.
7 MR. TENENBAUM: Then I will have to instruct
8 the witness not to answer.
9 BY MR. KARAGANIS:
10 Q. Could you answer the question if your
11 counsel allowed you to?
12 A. Yes.
13 Q. Mr. Boice, with regard to your
14 statement that solidification will, quote,
15 "protect against leaching to the groundwater,"
16 do you have any evidence that metals at either
17 Midco I or Midco II can leach to the groundwater
18 so as to violate groundwater cleanup action
19 levels?
20 MR. TENENBAUM: Same objection.
21 BY MR. KARAGANIS:
22 Q. Go ahead, Mr. Boice.
23 A. You mean some direct evidence or
24 calculations?

1 Q. Any evidence.
2 A. Well, the groundwater is contaminated
3 now, which suggests that the material can leach.
4 And, in addition to that, if you read the ATSDR
5 report, they stated that in their opinion the
6 subsurface materials could leach out and cause
7 groundwater contamination.
8 Q. My question relates to cleanup action
9 level violations. The ATSDR report made no
10 mention of cleanup action level for groundwater.
11 I am asking with respect to cleanup
12 action levels, do you have any data including
13 calculations that indicate that leaching of
14 metals from the soil could cause cleanup action
15 level violations in the groundwater.
16 MR. TENENBAUM: Same objection.
17 A. Any calculations.
18 I have been told as far as metals are
19 concerned, it is very difficult to predict their
20 solubility. So you would probably have to do a
21 number of tests to test the leaching of the
22 metals from the solidified -- from the
23 subsurface soil materials.
24 BY MR. KARAGANIS:

1 Q. Would it be fair to say, then, that at
2 this time you have no evidence that leaching
3 from metals in the soil would cause violations
4 of groundwater CAL's?
5 MR. TENENBAUM: Same objection.
6 A. We have evidence. It is just that it
7 is not -- I mean, we can't prove that it will
8 happen.
9 BY MR. KARAGANIS:
10 Q. What evidence do you have?
11 A. I think I already answered that
12 question, if you want to save some time and some
13 paper.
14 Q. I am not trying to save paper, Mr.
15 Boice. I am trying to do a deposition.
16 A. Okay. Hurry up.
17 Q. Mr. Boice, what metals do you believe
18 would leach to the groundwater at concentrations
19 that could violate groundwater CAL's?
20 A. Okay.
21 MR. TENENBAUM: Same objection.
22 A. Well, if we don't think about the CAL's
23 for a minute. Arsenic is toxic even well below
24 the CAL, which is the maximum -- would be the

1 maximum contaminant level.
2 So it is desirable even if we don't
3 exceed the CAL to get arsenic, to reduce the
4 mobility of arsenic as much as possible. And
5 the same goes for PCBs and a number of
6 pesticides on the site.
7 MR. KARAGANIS: Off the record.
8 (Discussion had off the record.)
9 Q. Mr. Boice, would it be fair to say that
10 you don't have calculations with regard to the
11 level of leaching of arsenic?
12 MR. TENENBAUM: I am going to have to at
13 this point instruct the witness not to answer
14 these questions. I have given my ground for
15 objection.
16 In the interest of bending over
17 backwards, I have let you ask a handful of
18 questions, but you have gotten to the end of his
19 answer, leaching to the groundwater. And I
20 think that you have had -- --
21 MR. KARAGANIS: We just starting asking
22 questions about leaching to the groundwater.
23 MR. TENENBAUM: I think I have given you
24 more than enough opportunity to ask questions.

1 I am going to have to instruct him not to
2 answer.
3 BY MR. KARAGANIS:
4 Q. Mr. Boice if your counsel allowed you,
5 would you be able to answer the question?
6 A. Yes.
7 Q. Mr. Boice, do you have any calculations
8 or data with respect to the leaching of any
9 other metals to the groundwater so as to cause
10 groundwater CAL violations?
11 MR. TENENBAUM: Same objection and
12 instruction.
13 BY MR. KARAGANIS:
14 Q. Mr. Boice, could you answer the
15 question if your counsel allowed you?
16 A. Yes.
17 Q. Mr. Boice, with regard to
18 semi-volatiles such as PCBs, is there a PCB soil
19 cleanup action concentration that is approved by
20 Washington headquarters for PCB cleanups?
21 MR. TENENBAUM: Same objection and
22 instruction.
23 BY MR. KARAGANIS:
24 Q. Could you answer the question if your

1 counsel allowed you?
2 A. Yes.
3 Q. Is there a separate PCB concentration
4 cleanup level in soil and/or water used by
5 Region V?
6 MR. TENENBAUM: Same objection and
7 instruction.
8 BY MR. KARAGANIS:
9 Q. Could you answer the question if your
10 counsel allowed you?
11 A. I would have to look --
12 I would have to confer with other
13 people to answer the question.
14 Q. With respect to any other
15 semi-volatiles -- I am sorry.
16 With respect to PCBs, have you done
17 calculations as to whether PCBs in the soils
18 could leach so as to cause violations of the PCB
19 groundwater CAL's that you have adopted?
20 MR. TENENBAUM: Same objection and
21 instruction.
22 Q. If your counsel allowed you, would you
23 be able to answer the question?
24 A. Yes.

1 Q. With regard to any other semi-volatile
2 materials, do you have any data or calculations
3 with regard to the ability of those
4 semi-volatile materials in the soil to leach so
5 as to cause violations of the groundwater CAL's?
6 MR. TENENBAUM: Same objection and
7 instruction.
8 BY MR. KARAGANIS:
9 Q. If your counsel allowed you, would you
10 be able to answer the question?
11 A. Yes.
12 Q. With respect to volatiles, do you have
13 any evidence or data that volatiles, volatile
14 organic material, could leach from the soils so
15 as to cause violations of the groundwater CAL?
16 MR. TENENBAUM: Same objection and
17 instruction.
18 BY MR. KARAGANIS:
19 Q. If your counsel allowed you to answer
20 the question, could you answer the question?
21 A. Yes.
22 Q. What methods or devices or techniques
23 are you using in the area that is not solidified
24 to protect against leaching of materials to the

1 groundwater so as to cause violations of
2 groundwater CAL's?
3 MR. TENENBAUM: Same objection and
4 instruction.
5 BY MR. KARAGANIS:
6 Q. My question specifically is to the
7 leaching materials from the soils.
8 MR. TENENBAUM: Same objection and
9 instruction.
10 BY MR. KARAGANIS:
11 Q. If your counsel allowed you to answer
12 that question, could you?
13 A. Yes.
14 Q. Do you have any evidence that pumping
15 and flushing would be less effective for
16 addressing soil and groundwater CAL's above the
17 groundwater table than below?
18 MR. TENENBAUM: Same objection and
19 instruction.
20 BY MR. KARAGANIS:
21 Q. Would you be able to answer the
22 question if your counsel allowed you?
23 A. Yes.
24 Q. Isn't it a fact that you and the Agency

are proposing to address soil and groundwater cleanup action levels below the groundwater table strictly by pumping and flushing?

MR. TENENBAUM: Same objection and instruction.

BY MR. KARAGANIS:

Q. Would you be able to answer the question if your counsel allowed you?

A. Yes.

Q. Isn't it a fact that as to a direct contact threat, EPA has allowed capping as a means of --

A. Didn't we go through this before?

Q. -- as a means of direct contact at both Superfund sites and RCRA sites?

MR. TENENBAUM: Same objection and instruction.

BY MR. KARAGANIS:

Q. Isn't it a fact that such capping has been allowed without solidification being required?

MR. TENENBAUM: Same objection and instruction.

BY MR. KARAGANIS:

1 Q. As to the last two questions, if you
2 had been allowed to answer by counsel, would you
3 be able to answer those questions?
4 A. Yes.
5 MR. KARAGANIS: I have a number of
6 additional questions in this area. Mr. Keating
7 has been kind enough to scrounge up a few more
8 minutes of tape.
9 I am going to let him ask some of his
10 questions, and then I intend to attempt to reach
11 an accord with counsel for the Justice
12 Department as to continuing this examination.
13 If not, we will have to seek redress from the
14 court.
15 MR. TENENBAUM: Reserve all objections.
16 MR. KARAGANIS: I am not recessing. I
17 intend to go on. If Mr. Keating finishes, I
18 will go on to night.
19 Go ahead, Mr. Keating.
20
21
22
23
24

1 CROSS EXAMINATION
2 BY MR. KEATING:
3 Q. Now, you said that you think the
4 solidification is going to immobilize a large
5 number of compounds, so that they won't leach
6 into the groundwater.
7 Can you tell me what compounds will
8 leach into the groundwater even with
9 solidification?
10 MR. TENENBAUM: Same objection.
11 A. I think I should state --
12 MR. TENENBAUM: Asked and answered.
13 A. As I stated before, that depends on the
14 results of the treatability study.
15 BY MR. KEATING:
16 Q. Okay.
17 So sitting here today, you don't know
18 which compounds will leach into the groundwater
19 until the treatability study is done, is that
20 correct?
21 MR. TENENBAUM: Same objection.
22 A. We won't know quantitatively. Right.
23 BY MR. KEATING:
24 Q. Okay.

1 Now, do you know what inorganics are
2 going to not -- what inorganics are not going to
3 be immobilized by solidification?
4 MR. TENENBAUM: Same objection.
5 A. I think that is the same question.
6 BY MR. KEATING:
7 Q. Compounds, I was breaking it down. I
8 am sorry, it could be considered the same
9 question.
10 But, do you know of any inorganics?
11 A. It would depend on the results of the
12 treatability study.
13 Q. Okay. The same answer.
14 So sitting here today we don't know?
15 MR. TENENBAUM: Same objection.
16 BY MR. KEATING:
17 Q. Is that right, sir?
18 A. Just based on we have a lot of results
19 from BDAT studies showing it reduces the
20 mobility of a large number of metals. There are
21 some compounds that are harder to reduce the
22 mobility of using the TCLP criteria than others.
23 Q. Some of those are metals?
24 A. Yes. Chromium and arsenic.

1 Q. Okay.
2 Is there any other metals besides
3 chromium and arsenic that might not be
4 immobilized by solidification, do you know, sir?
5 MR. TENENBAUM: That might?
6 MR. KEATING: Not be immobilized by
7 solidification.
8 A. I think the word is reduced in
9 mobility.
10 Q. Reduced in mobility is a good word.
11 A. The criteria they use is before and
12 then after the TCLP test.
13 Q. So sitting here today, you don't know
14 besides chromium and arsenic of any metals that
15 might not be reduced in mobility?
16 MR. TENENBAUM: Same continuing objection.
17 A. We would have to wait and see the
18 results of the treatability study.
19 MR. KEATING: Okay.
20 Q. So it is true what I said, sitting here
21 today we don't know?
22 A. We don't know for sure, that's right.
23 Q. Okay, great. Now we have got
24 inorganics.

1 Now, inorganics are not going to be
2 immobilized to any great extent by
3 solidification, is that correct, sir?
4 A. Inorganics?
5 Q. Inorganics.
6 A. Which inorganics?
7 Q. I mean organics.
8 A. I have heard that there has been some
9 studies where organics --
10 MR. TENENBAUM: I forgot to object. Same
11 continuing objection.
12 A. -- have been reduced in mobility.
13 BY MR. KEATING:
14 Q. Okay.
15 A. Using the before and after TCLP test.
16 Q. Organics you are saying sitting here
17 today are going to be immobilized or reduced?
18 A. I said there are some test results that
19 indicate that they may be reduced in mobility
20 using the before and after TCLP test.
21 And there is documentation as I stated
22 previously a number of times that materials can
23 be solidified into this solid matrix that
24 contain organic materials.

1 Q. All right.
2 But the inorganics would you agree with
3 me are going to be immobilized to a lesser
4 extent than organics -- I will rephrase.
5 Organics are going to be immobilized to a lesser
6 extent?
7 MR. TENENBAUM: Now we are going into a
8 level of detail which is beyond any pale of
9 possible --
10 MR. KARAGANIS: Point of clarification on
11 the question. Are we referring to
12 semi-volatiles organics or volatile organics.
13 MR. TENENBAUM: Same objection.
14 A. Generally I think as to semi-volatiles,
15 volatiles generally would be largely driven off
16 during the solidification process. Therefore,
17 at least at Midco I we are going to use soil
18 vapor extraction prior to the solidification
19 step to remove the great majority of the
20 volatile organic compounds.
21 BY MR. KEATING:
22 Q. Okay.
23 That doesn't have to do with your
24 answer about solidification reducing the

1 mobility. I mean now we are talking about soil
2 vapor extraction which is different than
3 solidification, right?
4 MR. TENENBAUM: Excuse me.
5 The question that he answered related
6 to the EPA's selected remedy, in the first
7 place.
8 In the second place, you are
9 misinterpreting both the question and the answer
10 that were asked.
11 I think that we are quickly reaching a
12 point where we are -- I am going to soon have to
13 instruct the witness not to answer. You are
14 getting into a level of detail that hasn't
15 anything to do with the question asked and
16 answered, and which is beyond any possible
17 relationship to the impression of bad faith
18 issue which the question was asked with respect
19 to.
20 MR. KEATING: I don't know how it was asked.
21 I know what the answer is going to be. I don't
22 want to get too much -- waste too much paper is
23 my problem.
24 MR. TENENBAUM: I can tell you right now,

1 all of Mr. Karaganis' questions where the
2 witness was allowed to answer, subject to
3 objection, only related to the impression of bad
4 faith issue. The question was asked on that
5 issue alone.
6 MR. KEATING: Okay.
7 Q. After a long period of time now we are
8 going to have a break down of the solidified
9 mass, is that correct, sir?
10 MR. TENENBAUM: Objection.
11 MR. KEATING: I object to it to, but it is
12 still going to happen.
13 MR. TENENBAUM: I will have to instruct the
14 witness not to answer.
15 We have reached a level of detail which
16 is beyond any --
17 MR. KEATING: This is a follow-up question,
18 counsel, as to solidification will exceed the
19 cleanup level action if it is in a solidified
20 matrix reduced mass.
21 MR. TENENBAUM: This is going into detail
22 which is way out of bounds.
23 MR. KEATING: I am asking a follow-up
24 question. I am asking if it is going to break

1 down in a period of time.

2 He said it is going to reduce the

3 mobility. I am saying well, after a while it is

4 going to break down. I mean that is a direct

5 follow-up question.

6 MR. TENENBAUM: No, I don't think -- I don't

7 really think -- one second.

8 I will allow this one question subject

9 to my objections. I think it is way out of

10 bounds, but we are reaching the end of the line.

11 Subject to my objection, if you know

12 the answer. If you don't know the answer you

13 don't have to say.

14 A. I think my answer was assuming that

15 solidification would be effective.

16 MR. KEATING: I will rephrase the question.

17 Q. The question is will it break down, the

18 solidification at some point, if it is going to

19 break down?

20 A. Well, the documentation of the

21 long-term effectiveness of solidification is

22 not -- it is not well documented. I think I

23 stated that in the ROD itself.

24 Q. Okay.

1 We don't know if it is going to break
2 down or not?
3 A. Right.
4 Q. Sitting here today?
5 A. That's why we are requiring long-term
6 monitoring.
7 Q. Okay.
8 Do you know of any plans the government
9 has as to what to do if the solidification
10 breaks down?
11 MR. TENENBAUM: Asked and answered.
12 Again, I think at this point we are
13 also beyond anything in the realm of even
14 argument. So I am going to have to instruct the
15 witness not to answer at this point.
16 BY MR. KEATING:
17 Q. You would be able to answer that if
18 counsel allowed you to, wouldn't you, sir?
19 A. Yes.
20 Q. Okay.
21 Now, can you tell me on what facts that
22 are not in the ROD you based your conclusion on
23 solidification?
24 MR. TENENBAUM: Objection, instruct the

1 witness not to answer
2 BY MR. KEATING:
3 Q. Would you be able to answer that if
4 your attorney allowed you to do so, sir?
5 A. If it was clarified.
6 Q. Okay.
7 What would you want me to clarify, sir?
8 MR. TENENBAUM: Let's leave it at that.
9 MR. KEATING: He has to tell me so I can ask
10 the question. I am willing to ask him any
11 question he wants. If he says clarify it, I
12 will clarify it. If he says put a period on it,
13 I will do that.
14 MR. TENENBAUM: I am sorry, but asking him
15 how would you clarify. He may be giving you an
16 answer and I don't want him to do that. If you
17 want to rephrase it, I will make the same
18 objection.
19 BY MR. KEATING:
20 Q. All right.
21 Can you tell me, sir, on what other
22 facts -- strike that.
23 Are there facts not included in the ROD
24 on which you base your answer about

1 solidification?

2 MR. TENENBAUM: Same objection and

3 instruction.

4 BY MR. KEATING:

5 Q. Could you answer that question if your

6 attorney allowed to you do so, sir?

7 A. Yes.

8 Q. Are there individuals at the USEPA that

9 you have talked to about solidification that

10 would have assisted in the answer you gave us

11 about solidification immobilizing a large number

12 of compounds?

13 MR. TENENBAUM: Same objection and

14 instruction.

15 BY MR. KEATING:

16 Q. Could you answer that if your counsel

17 allowed you to do so, sir?

18 A. Yes.

19 Q. All right.

20 Are there records that you reviewed

21 that are not in the ROD that would have assisted

22 you in your answer regarding solidification and

23 immobilizing a large number of compounds?

24 MR. TENENBAUM: Same objection and

1 instruction.
2 BY MR. KEATING:
3 Q. Would you be able to answer that if
4 your attorney allowed you to do so, sir?
5 A. Yes.
6 Q. I presume for the last three questions
7 you are not going to answer those questions, is
8 that correct?
9 I didn't ask him if he is refusing to
10 answer, but I will ask him right now.
11 Are you refusing to answer those last
12 three questions based on your attorney's advice?
13 A. Yes.
14 Q. Okay.
15 MR. KARAGANIS: Off the record.
16 (Discussion had off the record.)
17 BY MR. KEATING:
18 Q. The solidification and thereby the
19 immobilization of large number of compounds, can
20 you tell us if you know of any compounds that
21 would leach into the groundwater besides the
22 arsenic and what was it, chromium -- was it
23 arsenic and chromium?
24 MR. KARAGANIS: Arsenic and chromium were

1 the two that he mentioned.
2 BY MR. KEATING:
3 Q. Are think any others?
4 MR. TENENBAUM: Asked and answered. Same
5 objection and instruction.
6 MR. KEATING: All right.
7 My questions, as I said, they were
8 short. My questions I would say, counsel, have
9 been pointed towards the opinion given by the
10 deponent. I understand you are saying his
11 opinion is not as an expert.
12 I don't understand how you could say he
13 is not testifying as an expert, when he has been
14 presented --
15 MR. TENENBAUM: He is didn't offer an
16 opinion. All he testified to was what the ROD
17 said.
18 MR. KEATING: That's an opinion.
19 MR. TENENBAUM: No. He clarified the
20 responses on the bad faith impression issue,
21 which was in response to Mr. Karaganis'
22 questions, which we believed to be rather vague
23 and ambiguous, and I believe required some
24 clarification in his answers.

1 The testimony was sought only with
2 respect to the impression of bad faith issue and
3 we object to the introduction of testimony by
4 Mr. Karaganis' questioning and any other
5 questioning other than on that issue.
6 Your questions are now well beyond that
7 issue. We objected to even that, those
8 questions, but I didn't instruct him not to
9 answer.
10 MR. KEATING: You did instruct him not to
11 answer. My questions are a synopsis of if he
12 beliefs solidification would meet the cleanup
13 action level for Midco I and Midco II. And that
14 is --
15 MR. TENENBAUM: No. The question was not
16 whether solidification would meet the cleanup
17 action level.
18 The question was whether the
19 ROD-selected -- the ROD-selected remedy required
20 the meeting of the cleanup action levels. You
21 have misinterpreted the question.
22 MR. KARAGANIS: No, that is not what his
23 question was.
24 If we go back, the question was will

1 EPA's selected remedy meet the cleanup action
2 levels for soils that are established in the ROD
3 for Midco I and Midco II.
4 MR. KEATING: I wrote the question down,
5 too. My questions go to this, and I will make a
6 synopsis of them, and I will present them to the
7 court.
8 An opinion was offered. I am asking
9 the facts upon which he based the opinion. And
10 he was not allowed to answer. I have asked who
11 he talked to, and these are all questions that
12 are outside of his testimony. I phrased it such
13 so that I am not redundant in the testimony,
14 because I didn't want to know about anything
15 else in the ROD that he has already testified
16 to, anybody he talked about prior that he has
17 already testified about, or any records not in
18 the ROD that he has not discussed.
19 So I asked about any facts outside the
20 ROD that he relied on for this opinion, anyone
21 he talked to that he has not testified to and,
22 therefore, outside of the ROD that he has relied
23 on for these opinions, and any record that he
24 reviewed outside the ROD and, therefore, on

1 which he based his opinions.

2 And, finally, what information he had

3 outside of the ROD as to what should be done

4 after the solidified material has broken down,

5 and these compounds would then be released into

6 the environment again.

7 A. Regarding --

8 MR. TENENBAUM: Hold it.

9 (Conference between the witness and his

10 counsel.)

11 We don't agree with your

12 characterization and the record will speak for

13 itself on that.

14 This attempt to use the impression of

15 bad faith issue for the discovery into the

16 deliberative-process of the Agency is

17 outrageous.

18 MR. KEATING: This is not bad faith. It is

19 his opinion. I am trying to delve into the

20 basis of his opinion.

21 MR. TENENBAUM: The questions that Mr.

22 Karaganis asked --

23 MR. KEATING: Fine. I am talking about

24 mine. Okay.

1 MR. TENENBAUM: Your questions were also
2 limited to the impression of bad faith issue, as
3 far as we are concerned.
4 MR. KEATING: No. I want to tell you I am
5 not doing that. I don't want to --
6 MR. TENENBAUM: I would have instructed him
7 not to answer all your questions, if you are
8 telling me that you are asking for any purpose
9 other than the impression of bad faith issue.
10 MR. KARAGANIS: I will state for the record
11 that --
12 MR. TENENBAUM: I will move to strike all
13 testimony in this deposition other than on the
14 impression of bad faith issue.
15 And as to that, my objections that I
16 previously made stand. I move all other
17 testimony in this deposition be stricken, if
18 anyone attempts to use it on any issue other
19 than the impression of bad faith.
20 If the United States decides not to
21 pursue the issue of the bad faith of the ERM or
22 the other defendants in connection with amounts
23 of penalties, then, of course, none of this
24 testimony will have any --

1 MR. KEATING: I am talking about the last
2 ten minutes that I asked are based upon his
3 opinion. Now anything before could be bad faith
4 or anything --
5 MR. TENENBAUM: I am sorry, I objected to
6 the last ten minutes of your questioning.
7 MR. KEATING: But I wanted to make it clear
8 for the record what the hell we were objecting
9 about.
10 MR. TENENBAUM: I thought that your
11 questioning had to do with the impression of bad
12 faith issue. That is what Mr. Karaganis'
13 questions had to do with.
14 MR. KARAGANIS: No, they didn't.
15 MR. TENENBAUM: If yours did not, I would
16 have objected and instructed the witness not to
17 answer.
18 MR. KARAGANIS: My questions related to
19 sufficient cause, bad faith, consistency with
20 the NCP, in accordance with the procedures
21 prescribed by law. A whole series of questions.
22 MR. TENENBAUM: As I indicated, I reiterate
23 my previous objections and move to strike all
24 testimony in the deposition as it pertains to

1 anything other than the impression of bad faith.
2 MR. KARAGANIS: Are we done with the
3 colloquy so I can continue my questions?
4 MR. TENENBAUM: I thought you were done
5 already.
6 MR. KARAGANIS: I told you I was allowing
7 Mr. Keating to ask his questions until we ran
8 out of paper.
9 MR. TENENBAUM: Go ahead.
10 I object to the resumption of the
11 deposition.
12 Go ahead.
13 REDIRECT EXAMINATION
14 CONTINUED
15 BY MR. KARAGANIS:
16 Q. Mr. Boice, what metals are we concerned
17 about from the standpoint of direct contact, the
18 direct contact threat at Midco I and Midco II?
19 MR. TENENBAUM: Objection. Instruct the
20 witness not to answer.
21 BY MR. KARAGANIS:
22 Q. Could you answer that question if your
23 counsel allowed you to?
24 A. Yes.

1 Q. What semi-volatiles are we concerned
2 about from the standpoint of the direct contact
3 threat at Midco I and Midco II?
4 MR. TENENBAUM: Objection. Instruct the
5 witness not to answer.
6 BY MR. KARAGANIS:
7 Q. Could you answer that question if your
8 counsel allowed you to?
9 A. Yes.
10 Q. What volatile organic materials are we
11 concerned about with respect to the direct
12 contact threat at Midco I and Midco II?
13 MR. TENENBAUM: Objection. Instruct the
14 witness not to answer.
15 MR. KEATING: I see a pattern coming here.
16 BY MR. KARAGANIS:
17 Q. Could you answer if your counsel
18 allowed you to?
19 A. Yes.
20 Q. With respect to the threat of soils
21 leaching into the groundwater, what metals at
22 Midco I and Midco II are we concerned about
23 leaching into the groundwater so as to cause
24 violation of CAL's, groundwater CAL's?

1 MR. TENENBAUM: Same objection and
2 instruction.
3 BY MR. KARAGANIS:
4 Q. Could you answer the question if your
5 counsel allowed you to?
6 A. Yes.
7 Q. With respect to semi-volatiles, which
8 semi-volatiles are you concerned about with
9 respect to semi-volatiles leaching into the
10 groundwater, from the soils into the groundwater
11 so as to cause violations of groundwater CAL's?
12 MR. TENENBAUM: Same objection and
13 instruction.
14 BY MR. KARAGANIS:
15 Q. Could you answer the question if your
16 counsel allowed you to?
17 A. Yes.
18 Q. With respect to the volatile organics,
19 which volatile organic compounds are you
20 concerned about at Midco I and Midco II leaching
21 into the groundwater so as to violate
22 groundwater cleanup action levels?
23 MR. TENENBAUM: Same objection and
24 instruction.

1 BY MR. KARAGANIS:
2 Q. Could you answer that question if your
3 counsel allowed you to?
4 A. Yes.
5 Q. What do you mean by the term TCLP?
6 MR. TENENBAUM: Same objection and
7 instruction.
8 MR. KARAGANIS: The witness referred to TCLP
9 in a number of his answers. I am trying to get
10 clear for this deposition what TCLP means.
11 Are you instructing the witness not to
12 answer that question?
13 MR. TENENBAUM: I think that you have now
14 had four or five opportunities to question this
15 witness. It is not proper to keep resuming.
16 MR. KARAGANIS: I simply did it because Mr.
17 Keating was gracious enough to go out and get
18 the paper.
19 MR. TENENBAUM: Can you now even tell me I
20 don't waive things when I don't object and don't
21 instruct the witness not to answer?
22 MR. KARAGANIS: By asking me to tell you
23 that you haven't waived things, you are asking
24 me to waive certain rights.

1 You haven't waived whatever you haven't
2 waived.
3 MR. TENENBAUM: I think that if I let him
4 answer this question, you will probably tell me
5 that I have waived my objection to your asking
6 questions. I am not going to let him answer
7 questions unless you tell me I am not waiving.
8 MR. KARAGANIS: You have the burden of
9 justifying before the court your instruction not
10 to answer.
11 I am asking him what do you mean by the
12 term TCLP. I take it those are in capital
13 letters. What does it mean?
14 Are you instructing the witness not to
15 answer?
16 MR. TENENBAUM: Subject to my objections, I
17 will let him answer if you agree that I am not
18 waiving anything by allowing him to answer.
19 MR. KARAGANIS: I am not agreeing to
20 anything.
21 MR. TENENBAUM: I can't let him answer.
22 MR. KARAGANIS: If you haven't waived it,
23 you haven't waived it. You are reserving your
24 rights.

1 MR. TENENBAUM: If by letting him answer
2 that question subject to my objection, you
3 contend that I have waived my objections to your
4 resuming questions, I can't take that chance.
5 MR. KARAGANIS: You have preserved your
6 non-waiver, whether I agree with you or not.
7 You have preserved your position.
8 MR. TENENBAUM: By letting him answer this
9 question?
10 MR. KARAGANIS: You just articulated that
11 you aren't waiving anything. I am asking him a
12 question.
13 MR. TENENBAUM: You haven't told me whether
14 you have agreed that I am not waiving anything.
15 MR. KARAGANIS: You are going to have to
16 tell the judge why you are not letting this
17 witness answer the question. What does he mean
18 when he using the initials TCLP.
19 MR. TENENBAUM: The reason I am not allowing
20 this witness to answer the question is because
21 the questioner has had four or five
22 opportunities to ask the question.
23 It is tenth day of the deposition, it
24 is 7:45 at night. The questioner is just

1 attempting to abuse the discovery process.
2 MR. KARAGANIS: I take strong exception to
3 that.
4 I don't know what caused you to say
5 that other than the fact that I have not had an
6 opportunity to examine this witness about an
7 opinion based on a number of facts which you
8 elicited. One of the questions I have with
9 respect to his answers was he said something
10 about and repeatedly the term TCLP.
11 Again, are you instructing the witness
12 not to answer?
13 MR. TENENBAUM: As long as you are not going
14 to agree that allowing him to answer will not
15 constitute a waiver, I have no choice because I
16 don't want to waive anything.
17 BY MR. KARAGANIS:
18 Q. Mr. Boice, could you state what TCLP
19 was if your counsel allowed you to answer the
20 question?
21 MR. TENENBAUM: Same objection and
22 instruction.
23 A. Yes.
24 MR. TENENBAUM: If you want to make a short

1 record about what else you would ask, we might
2 as well do that, because we are in a position
3 now that I can't allow him to answer any
4 questions because you are not agreeing that that
5 won't be a waiver. So you might as well if it
6 is all right with you summarize what you have
7 left to ask.
8 MR. KARAGANIS: I am not going to summarize.
9 That's not the way you take a deposition.
10 MR. TENENBAUM: It is evident that the
11 questioner wants the tape to run out before the
12 deposition is over.
13 MR. KARAGANIS: I have a question that is a
14 loaded question and an answer here that is
15 loaded. And I am trying to cover as many of the
16 things that are there, that were sprung on us on
17 the tenth day of the deposition. And you have
18 spent the first ten days instructing the witness
19 not to answer.
20 MR. TENENBAUM: The question was limited to
21 the impression of bad faith issue.
22 MR. KARAGANIS: You may think so. It is
23 certainly not.
24 MR. TENENBAUM: Any other testimony can and

1 will be stricken from the record if we have
2 anything to say about it.
3 MR. KEATING: That is if you withdraw the
4 bad faith you said. You are saying you are
5 withdrawing the bad faith?
6 MR. TENENBAUM: I said any other testimony
7 on this that goes to any other issue, I objected
8 to it.
9 MR. KEATING: You said if we have anything
10 to do with it. You said the only way you are
11 going to do that before when I was talking was
12 withdrawing the bad faith. So I can write my
13 client he is withdrawing bad faith.
14 MR. TENENBAUM: We don't agree with your
15 analysis of that.
16 BY MR. KARAGANIS:
17 Q. Mr. Boice, what specific data do you
18 have in the record or otherwise with respect to
19 the solidification of the soils into a
20 solidified matrix?
21 MR. TENENBAUM: Same objection and
22 instruction.
23 BY MR. KARAGANIS:
24 Q. What evidence do you have as to the

1 inability of solidification to address volatile
2 organics?
3 MR. TENENBAUM: Same objection and
4 instruction.
5 BY MR. KARAGANIS:
6 Q. Could you answer those last two
7 questions if your counsel allowed you to?
8 A. Yes.
9 Q. With respect to --
10 A. I believe I already have answered them.
11 Q. With respect to the solidified
12 matrix, -- strike that. Yes.
13 With respect to the solidified matrix,
14 what conditions would cause it to fail and
15 release any of the materials that it had within
16 the matrix?
17 MR. TENENBAUM: Same objection and
18 instruction.
19 Just for the record, as we understand
20 it the tape from the court reporter is running
21 out.
22 It is now 7:52 p.m. and we have been
23 going since 9:00 a.m. So it is our position
24 that the deposition will be concluded as soon as

1 either the questioner finishes or the tape runs
2 out.
3 MR. KARAGANIS: The deposition won't be
4 concluded and I am not finished.
5 And can you give us some estimate, Mr.
6 Court Reporter, as to how much time we have left
7 on the tape?
8 (Discussion had off the record.)
9 MR. TENENBAUM: Why don't you summarize your
10 questions you have? Given your position on
11 waiver, I am not going to allow him to answer
12 anyway.
13 MR. KARAGANIS: I have a number of questions
14 that relate to the source of the data, the
15 calculations, the documents that relate to each
16 component of the opinion that was given by this
17 witness, in which he said and I quote:
18 "Yes.
19 By solidifying all
20 the soils that exceed the
21 cleanup action levels into a
22 solid matrix, reduce the
23 mobility of at least a large
24 number of the compounds, and

1 prevent it -- remove it from
2 the direct contact threat,
3 contact with wildlife and
4 protect against leaching to
5 the groundwater."
6 That the elements of that answer need
7 full and complete exploration with respect to
8 the data behind each element of the answer, the
9 calculations behind each element of the answer,
10 and the methodology leading to the conclusions,
11 the technical conclusions therein, particularly
12 as it relates to not only the efficacy of each
13 of those options and the existence of any
14 problem or environmental or public health
15 problem with respect to each of those options
16 and environments, but also the availability of
17 other alternatives of a less expensive nature
18 that are used by EPA at Superfund sites and
19 elsewhere to protect against such so-called
20 threats.
21 MR. TENENBAUM: We disagree with your
22 interpretation of the record.
23 MR. KARAGANIS: This deposition is recessed.
24 It is not adjourned, it is not concluded. And I

1 expect to proceed further.

2 MR. TENENBAUM: In our view the deposition

3 is concluded and adjourned.

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U.S. Department of Justice

Washington, DC 20530

September 26, 1990

Richard Boice
Office of Regional Counsel
U.S. EPA
230 South Dearborn Street
Chicago IL 60604

Re: Deposition of Richard Boice
United States v. Midwest Solvent Recovery

Dear Mr. Boice:

Enclosed please find for you to review, a copy of your deposition, along with the exhibits,taken August 21, 1990. If you have any questions feel free to call me at (202) 514-5409.

Sincerely,

Richard B. Stewart
Assistant Attorney General
Environment and Natural
Resources Division

By: Joy L Pekar for
Alan S. Tenenbaum
Environmental Enforcement
Section

EXHIBIT

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
12/13/78	Joe Boyle, U.S. EPA Region V	Site inspection	RCRA Compliance check	Midco Site Visit & Recommendation by Joe Boyle	None	Karl J. Klepitsh	NA
3/15/79	Kay Holub, U.S. EPA Region V Bruce Palin, ISBH Lane Ralph, Aide to Senator Lugar	Site inspection Site photos	Record information on site hazards from visible observation	3/26/79 Memo from Kay Holub	None	Basil G. Constantelos	NA
4/24/79	Indiana State Board of Health Jim King Bruce Palin Jim Hunt	Collect ground water, surface water, & soil samples	Obtain analytical information to help evaluate site hazards	6/15/79 Memo from Jim King Water Sampling Identification Sheets	18 samples analyzed by ISBH for metals, phenol, & cyanide 5 samples analyzed by U.S. EPA	U.S. EPA C. Ross J. Barney Indiana State Board of Health	NA

DEPOSITION EXHIBIT
Boice 56
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EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				5/25/79 Memo from Curtis Ross	For GC/MS ID scan		
5/18/79	U.S. EPA Region V E. Mortenson P. Baker S. Wynneschenko	Collect surface water & well water samples	Obtain analytical information to help evaluate site hazards	5/18/79 Inspection Report 7/9/79 memo from Dr. Emilo Sturino	78CM08501 79CM08502 79CM08503 GS/MS ID scan ICAP metals	Kay Holub Sandra Gardebring Roscoe Libby	NA
6/5-6/79	Booker Sloan, Gary Fire Dept. Dennis McGuire, Gary APC Gary City Attorney's Office Gary Civil Defense Gary Police Dept. Gary Dept of Planning & Zoning	Site Inspection Photos from Helicopter	Record information site hazards especially fire hazard & evaluate site hazards	6/8/79 letter from Booker Sloan	None	City of Gary	NA
6/20/79	U.S. EPA Region V Alan Bauman	Site Inspection Site Photos	Record information	None	None	William Miner	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
			on site hazards from visible observations				
8/2/79	U.S. EPA Region V Alan Bauman Dr. Eugene Meyer Michael Berman	Site Inspection Site Photos	Record Information on site hazards and evaluate site hazards	8/7/79 memo from Dr. Eugene Meyer	None	Jay S. Goldstein William Miner	NA
11/13/79	U.S. EPA Region V Ed Zylstra Alan Bauman	Collect samples of waste	Enforcement support, obtain analytical information to help in evaluation of site hazards	11/16/79 memo from Dr. Emilio Sturino	7 samples: volatile organics (qualitative)	Alan Bauman William Miner Roscoe Libby	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
12/13/79	U.S. EPA Alan Bauman	Site visit	Check site activities	None	None	Bill Miner	NA
12/14/79	U.S. EPA Alan Bauman	Site visit	Check site activities	None	None	Bill Miner	NA
12/27/79	U.S. EPA Region V Rich Shandross	Site Observation Photos	Check site activities	1/2/80 seek & find information	None	Jay S. Goldstein	NA
12/27/79	U.S. EPA Region V Mike Berman Chief inspector Gary Fire Dept	Site Observation	Obtaining 10 days restraining order for site activities	1/18/80 memo from Mike Berman	None	Dale Bryson	NA
1/4/80	U.S. EPA Alan Bauman	Site Visit	Check site activities	None	None	Bill Miner	NA

EXHIBIT C-1

TABULATION OF U.S 'A ACTIVITIES AT THE MIDCO I SI'

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
4/7/80	U.S. EPA Alan Bauman	Take aerial photos	Enforcement support	Aerial photos	None	Alan Bauman Bill Miner	NA
4/1/81	U.S. EPA Region V Everett Mortenson Alan Bauman Barbara Magel	Observe site; Collect sample of surface water	Hazard assessment Investigate report of child being burned	Sample Evidence Profile, Request for Laboratory Analyses 4/10/81 memo from Alan Bauman	3 samples for pH alkalinity	Alan Bauman Roscoe Libby Bill Miner	NA
4/28/81	U.S. EPA Region V Ecology & Environment George Madany Scott McCone	Measure length of fencing to enclose drum area.	Install fence to limit access to site	6/10/81 memo from George Madany	None	Greg Vanderlaan	NA E & E had regional contract for program support
6/2-9/81	U.S.S. Cyclone Fence, (Subcontactor) Ecology & Environment Scott McCone	Install fence around area; Oversee fence installation, Monitor air	Limit access to the site to prevent contact with hazardous chemicals	Tabulation of Midco I & II fencing costs 4/1/82 telephone memo from	HNU reading during fencing installation	U.S. EPA George Madany Greg Vanderlaan Commander Ninth Coast Guard District	Limited Bidding: Bids obtained from 5 firms

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
		quality		James Rogers, U.S. Coast Guard			
		Keep records		U.S. Coast Guard; 4/13/82 letter from George Madany			
				POLREP 1 & 2 5/7/81 memo from Commander Ninth Coast Guard District			
				5/7/81 proposal from Fondessy			
				Mailgram from Charle Litcht			
				5/19/81 letter from INTEL			

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				6/10/81 Memo from George H. Madany 6/2-9/81 Daily Summary "311K" Cleanup 6/12/81 memo from Scott McCone			
6/11/81	Ecology & Environment, Inc.	Prepare a remedial action plan for surface removal TDD5-8105-6	Help determine type of remedial action & cost	6/11/81 memo from Scott McCone	None	Greg Vanderlaan	NA E&D had regional contract for emergency program support

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
6/13/81	ISBH Gwin Doyle Hammond Air Pollution Control	Collect samples of flood water	Respond to complaints of contamination due to site run off during flood	Water Sample Identification Sheets	4 samples: cyanide, pH volatile organics, phenols	ISBH Hammond Air Pollution Control	NA
6/16/81	U.S. EPA Region V Alan Bauman Michael Berman	Meet Hessville residents. Observe flood conditions	Respond complaints that run off from Midco I was causing chemical burns	None	None	Bill Miner	NA
6/17/81	Ecology & Environment, Inc. Scott McCone	Collect samples of flood water,	Respond to complaints of	6/13/81 Initial Spill Report	HNU readings in 10 basements	George Madany	NA E & E had a

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	Jerry Kelly Hammond Air Pollution Control Ron Novak Frank Kolodziej Indiana Chemical Emergency Response Team Woody Smith 2 staff U.S. Senator Lugar's Office Tim Sanders	basement water in Hessville, and monitor air in basements. TDD5-8106-14	odors, illness & injury due to chemical contact from flood waters	6/19/81 memo from Scott McCone Region V Basic Data Form 7/7/81 memo from George H. Hadany	7 samples: volatile organics		regional contract for emergency program support
6/24/81	U.S. EPA Region V Alan Bauman Bob Hartigan	Meet with residents & news media	Respond to complaints & reports on chemical contamination from flood	None	None	Bill Miner	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
7/9/81	U.S. EPA Region V Alan Bauman Gary Milburn	Visit site, photos	Take pictures of monitoring well installation	None	None	Bill Miner	NA
6/14/81	Ecology & Environment Scott McCone	Observe flooding conditions Discuss with city officials and residents TDD5-8106-12	Respond to complaints that run off from Midco I was causing chemical contamination.	6/14/81 memo from Scott McCone	Flow estimate for Gary into Hammond	Tony Rutter	NA E & E had regional contract for emergency program support

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
7/20/81	U.S. EPA Region V George Madany Ecology & Environment Tom DeFouw Philip Campagna City of Hammond City of Gary Indiana Highway Commission Indiana State Board of Health Local Civil Defense	Attend meeting concerning surface water run-off from Midco I into Hammond	Plan to prevent run-off from Midco I from entering Hammond	7/20/81 memo from Scott McCone	None	George Madany	NA E & E had regional contract for emergency program support

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
7/23/81	U.S. EPA Region V Greg Vanderlaan Beverly Kush Rich Bartelt U.S. EPA , HQ Henry Van Cleve	Procurement Request Rationale Justification of limited solicitation	Implement surface removal and attachments: Justification for Limited Solicitation; Procurement Request Rationale	7/23/81 memo from Greg Vanderlaan	None	Henry Van Cleave	NA
7/81	U.S. EPA Region V Beverly Kush George Madany Richard Bartelt U.S. EPA, HQ Paul Beam	Observe site conditions	Help plan future remedial actions	None	None	Richard Bartelt	NA
8/11/81	U.S. EPA Alan Bauman	Photos of "new" spilled material	Document additional spillage	None	None	Bill Miner	NA
8/13/81	U.S. EPA Gary Fire Dept. Alan Bauman	Site inspection	Observe new drums	None	None	Bill Miner	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
			Evaluate vegetation damage				
11/3/81	U.S. EPA Region V Beverly Kush Ecology & Environment Scott McCone Mark Benke Jerry Kelley	Estimate total number drums on site	Information to help contractors bid for surface removal	11/3/81 Inspection Report	None	Beverly Kush	NA
11/10/81	U.S. EPA Alan Bauman	Aerial photos	Enforcement support hazard assessment	Aerial photos	None	Bill Miner	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
8/17/81	U.S. EPA Region V Greg Vanderlaan Beverly Kush U.S. EPA - HQ Paige Peck Henry Van Cleave	Revised Procurement Request Rationale	Implement surface removal	8/17/81 Memo from Greg Vanderlaan with: Justification for Limited Competition; Procurement Request Rationale	None	Henry Van Cleave	NA
10/31/81	U.S. EPA Region V Beverly Kush George Madany Greg Vanderlaan Alan Bauman U.S. EPA - HQ Hans Crump	Observe site conditions	Evaluate need for a surface removal action	None	None	Greg Vanderlaan Richard Bartelt	NA
10/81	Environmental Programs, Lockheed E.V. Dabney	Aerial Photographic Analysis including historical aerial photographs	Evaluate historical development of site hazardous waste storage Evaluate drainage from site	"Aerial photograpic Analyis of Hazardous Waste Study Sites, Gary, Indiana" October 1981 by E.V. Dabney, Lockheed	None	Beverly Kush G. Vanderlaan G.A. Shelton, Project Officer, EMSL	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
11/20/81	U.S. EPA Region V Greg Vanderlaan Beverly Kush George Madany Alan Baumann John Oaks Mike Berman U.S. EPA - HQ Paige Peck David O'Connor Ecology & Environment Scott McCone City of Gary City of Hammond contractor representatives	Observe site conditions	Allow contractors that are bidding on surface removal to observe the site	11/23/81 memo from Scott McCone	None	Greg Vanderlaan Rich Bartelt	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
1/12/82	Ecology & Environment, Inc. Sue Ahrent Mark Henke	Visit site	Determine location of U.S. EPA command post during surface removal	None	None	Beverly Kush	NA E & E had regional contract for support to emergency program
1/13/82	U.S. EPA George Madany Ecology & Environment Mark Henke	Assist in location and set up of command post	Prepare for surface removal	None	None	Beverly Kush	NA
1/14/85	Ecology & Environment Mark Henke	Deliver furniture for command post	Prepare for surface removal	None	None	Beverly Kush	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
1/15/82	Ecology & Environment Mark Henke	Meet telephone representatives for telephone installation at command post	Prepare for surface removal	None	None	Beverly Kush	NA
1/25-26/82	Ecology & Environment Mark Henke Glen Cekus	Estimate number of INTEC drums	Information for surface removal	None	None	Beverly Kush	NA
2/5/82	Ecology & Environment Mark Henke Sue Ahrendt	Photos	Record site conditions just before surface removal	None	None	Beverly Kush	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
2/11/82	Ecology & Environment Mark Henke Sue Ahrendt	Prepare command post for surface removal activities	Prepare for surface removal	None	None	Beverly Kush	NA
2/17/82	Chemical Waste Management Ecology & Environment Sue Ahrendt Mark Henke Glen Cekus U.S. EPA Region V Beverly Kush	Collect samples of burned drums & rubble	Prepare for surface removal	None	None	Beverly Kush	NA
6/81-9/82	Ecology & Environment C.F. Beize Kathy Getty Dan Sewall	TDDF5-8105 17	Identification of contaminants present in soil & ground water flow characteristics	"Hydrogeologic Report on the Midco I facility," Sept. 1982 Sample Evidence Profile		Beverly Kush Greg Vanderlaan Rich Bartelt Thomas Yeates	NA E & E had regional contract for hazardous waste site investigations.

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
6/8/81		Site reconnaisance					
6/24/81		Peizometer installation P1-P5					
6/25/81		Water level measurement					
7/7/81		Site survey					
7/14/81		Installation of peizometer P6					
7/17/81		Water level measurement			7 soil samples for medium hazard: metals, cyanide, organics		
7/19-22/81		Installation monitor wells BW-14 soil sampling			1 soil sample cyanide only		

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORZING WORK	BIDDING
7/27/81		Monitor well development & surveying					
7/29/81		Water level measurements; Monitor well sampling			4 water samples for medium hazard: metals cyanide organics		
2/9/82		Water level measure-ments; Site measure-ments					
3/2/82		water level measure-ments; Monitor well sampling; Surface water sampling			8 water samples for organics 3 water samples for metals & cyanides.		
5/12/82		Surface water sampling			4 water samples for metals & cyanide		

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
2/6/82-7/8/82	Chemical Waste Management	Surface removal at Midco I; Sample for disposal; Monitor badge sampling	Eliminate hazards to human health and the environment due to improper storage of hazardous wastes at and above the surface	11/31/81 Request for Proposals 11/18/81 Amendment of Solicitation 12/16/81 Memo from George Madany 12/31/81 Memo from George Madany 1/4/82 Request for Technical Evaluation of Request for Proposal from Paige Peck Proposal from Chemical Waste Management 1/6/82 Memo from George Madany Questions & Answers on Midco I Proposal,	Samples & analyses for disposal by CWM. Air monitoring using absorbent tubes. Personnel monitoring using monitoring badges	The Administrator Christopher J. Capper William Hedeman Valdas Adamkus Basil Constantelos Richard Bartelt Beverly Kush	Limited Solicitation Proposals from 9 firms were evaluated
	U.S. EPA Region V Beverly Kush	On-Scene Coordinator					
	Ecology & Environment	Oversight, records, air monitoring					

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
		TDD5-8201-7		Technical Evaluation Sheets			
		Air monitoring		POLREPs 5, 6, 7, 8, 9, 10, 11			
	U.S. EPA personnel identified in Sample Evidence Profiles			3/12/82 Memo from H.D. Van Cleave			
				11/17/81 Memo from George Madany			
				10/21/81 Memo from Basil G. Constantelos			
				3/30/82 Memo from William Hedeman to Christopher J. Capper			
				4/1/82 Memo from Christopher J. Capper to the Administrator			

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				4/13/82 Memo from Beverly Kush to Paige Peck 4/21/82 Memo from TAT 6/7/82 Memo from TAT Biweekly Status Reports by Chemical Waste Management CWM invoices Manifest for transport and disposal Midco Final Status Report, 2/6/82 - 7/8/82 by Chemical Waste Management Memos from Scott McCone to Bob Bowden dated 7/19/82, 7/14/82, 7/2/82, 5/3/82, 3/30/82			

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EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				Air monitoring Log Book Hidco Daily Logs 1/12/82 - 7/7/82 HIDCO I Incident Obligation Log: CERCLA Daily Summary Sheets; Daily Personnel Logs; 2/26 - 7/7/1982 OSC's Certifications Sample Evidence Profiles (air monitoring results) OSC's log book			
3/2/82	Ecology & Environment C.F. Beize Dan Sewall	Collect soil and groundwater at Fonteney residence	Respond to health complaint by Fonteney family	Sample Evidence Profiles	1 soil & 1 ground water sample for: cyanide	Beverly Kush	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
					metals organics		
4/2/82	Indiana State Board of Health Lee Longlotz Steve Wakefield	Collect waste sample from a shallow well and basement sump	Assure protection of public health. Evaluate site hazards	Water Sample Identification Sheets	3 samples: organics	Indiana State Board of Health	NA
4-11-82	Gary Ford Stein, M.D., Center for Environmental Health, Centers for Disease Control, DHHS U.S. EPA Region V Beverly Kush Greg Vanderlaan	2 site visits, Health evaluation	Respond to health complaints (interim evaluation) 11/22/82 Letter from Dr. Gary F. Stein (Final conclusions)	6/21/82 Letter from Dr. Gary F. Stein	None	Beverly Kush Greg Vanderlaan	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
					metals organics		
4/2/82	Indiana State Board of Health Lee Longlotz Steve Wakefield	Collect waste sample from a shallow well and basement sump	Assure protection of public health. Evaluate site hazards	Water Sample Identification Sheets	3 samples· organics	Indiana State Board of Health	NA
4-11-82	Gary Ford Stein, M.D., Center for Environmental Health, Centers for Disease Control, DHHS U.S. EPA Region V Beverly Kush Greg Vanderlaan	2 site visits, Health evaluation	Respond to health complaints (interim evaluation) 11/22/82 Letter from Dr. Gary F. Stein (Final conclusions)	6/21/82 Letter from Dr. Gary F. Stein	None	Beverly Kush Greg Vanderlaan	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
4-22-82	Ecology & Environment Jerry Kelley Tom DeFouw	Collect nearby private well & surface water samples	Respond to health complaints; Assure protection of the public health	4/22/82 Memo from Scott McCone and attachments 6/2/82 Memo from Scott McCone 6/15/82 Memo from Robert Bowden	5 samples for: metals, organics	Beverly Kush Robert Bowden	NA E & E had regional contract for support of emergency program
5-24-26-82	Emergency Response Team U.S. EPA George R. Prince Royal Nadeau Harry Allan Ecology & Environment Phil Campagna	Collect soil samples	Determine cost effective extent of soil removal action	6/3/82 Memo from George R. Prince 6/25/82 Interim Report: Midco I Extent of Contamination Study by George R. Prince	16 soil & 4 water samples for priority 1 analysis of: organics metals cyanide	Beverly Kush Royal Nadeau	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				Midco I Hazardous Waste Site Extent of Contamination Study by the Emergency Response Team March 1983 2/16/84 Letter from George R. Prince	45 soil for priority 2 analysis of: organics cyanide oil & grease		
7/30/82	U.S. EPA Region V Mike Berman Marcia Carlson Bob Martian Beverly Kush Barbara Magel Greg Vanderlaan	Public Meeting	Inform public of progress of removal action and site hazards	7/8/82 Memo from Scott McCone	None	Marcia Carlson Greg Vanderlaan	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	Jim Knoy, ISBH						
	Dennis McGuire, Gary APC						
	Dr. Caldwell, Gary Health Comm.						
	Ron Novack, Hammond APC						
	Dr. Premuda, Hammond Health Comm.						
	Tim Sanders, Senators Luger & Quale Barbara Waxman, Congr Benjamin						
	Scott McCone Ecology & Environment						

EXHIBIT C 1

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
7/82-4/83	Ecology & Environment, C.F. Beize Tom Koch Dan Sewall Paul Shea Paul Bruce Sue Ahrendt Ron St. John U.S. EPA Region V Beverly Kush	TDDR5-8203 03-20	Determine vertical flow characteristics in aquifer, check for presence of contaminants in the lower levels of the aquifer and further north (down gradient) of the site	"Hydrogeologic Report on the Midco I Hazardous Waste Site· Addendum April 7, 1983, C.F. Beize 9/9/82 Potential Hazardous Waste Site Inspection Report, Mark Lunsford Sample Evidence Audits 3/10/83 Preliminary Assessment by Mark Lunsford		Beverly Kush Greg Vanderlaan Rich Bartelt Thomas Yeates	NA E & E had a regional contract for hazardous waste investigations
6/22/82		Determine locations for additional monitoring wells					
7/7-8/82		Installation of monitoring wells X1-X6					

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
8/24-25/82		Well development & surveying					
8/30/82		Water level measurement; Monitor well sampling			8 water samples for organics metals cyanide		
12/20/82		Water level measurement; Well purged 10 volumes					
12/21/82		Monitor wells sampled; 1 surface water sample			13 water samples for: organics, filtered metals, filtered cyanide		
9/21/82	U.S. EPA Alan Bauman Greg Vanderlaan	Visit site	Observe site conditions following clean up	None	None	Alan Bauman Greg Vanderlaan	NA

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	ISBH Tim Hunt Steve Wakefield						
1/21/82	U.S. EPA, RV Alan Bauman Greg Vanderlaan ISBH Tim Hunt Steve Wakefield	Visit site	Observe site conditions following clean-up	None	None	Alan Bauman Greg Vanderlaan	NA
9/23/82	ISBH Jim Knoy	Collect samples of soil from residence in Hessville	Respond to health complaints Assure protection of the public health	Water sample identification sheets 9/28/82 Memo from Jim Knoy	3-samples: metals cyanide	Indiana State Board of Health	NA
10/5/82	U.S. EPA Region V Alan Bauman Mike Berman Tim O'Mara	Site visit	Observe site conditions following clean up	None	None	Mike Berman Alan Bauman	NA

EXHIBIT C 1

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
10/16/82	Environmental Monitoring Systems Laboratory, U.S. EPA	Updated photo and analysis	Evaluate site drainage and potential leachate following surface removal action	Aerial Photo Analyis dated 10/16/82	None	Beverly Kush Greg Vanderlaan Richard Bartelt	NA
3/9/83	U.S. EPA Beverly Kush Jim Knoy, ISBH CH2M-Hill John Martinsen Tom Gilgenbach	Site observations	Provide CH2M-Hill with information to prepare a remedial planning document called a Remedial Action Plan	3/9/83 Memo from John Martinsen	None	Beverly Kush Nancy Willis	NA
8/10/83	U.S. EPA Region V Dr. David Homer Karen Waldvogel Weston Jeff Stauffacher Doug Balloti	Site observations	Help David Homer in preparation of an endangerment assessment	8/10/83 Memo From Dr. David Homer	None	Karen Waldvogel	

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
9/19/83	U.S. EPA, RV Karen Waldvogel U.S. EPA Headquarters Sharon Foote Abraham Mittleman Kurt Lamber Dr. Keros Cartwright Hydrogeological Consultant	Site observations	Familiarize Dr. Cartwright and Headquarters staff with the Midco sites	9/19/83 Memo	None	Karen Waldvogel	
3/12/83	U.S. EPA, RV Dr. David Homer	Prepare endangerment assessment	Evaluate site hazards	Midco I Endangerment Assessment by Dr. David Homer 12/22/83 Memo from Valdus V. Adamkus	None	Karen Waldvogel	
8/83-7/84	Ecology & Environment Thomas Lentzen	Plat survey topographic map aerial photo	Aid in planning remedial actions	"Field Survey of the Midco I and Midco II Disposal Sites," July 1984	None	Karen Waldvogel Thomas Yeates	
1/8/84	CH2M-Hill	Prepare community relations plan	Help in planning meetings & correspondence with the local community	"Draft Community Relations Plan," August 1984	None	Karen Waldvogel	

EXHIBIT C I

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO I SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
3/83-11/84	CH2M-Hill John Martinsen Tom Gilgenbach	Prepare a Remedial Action Master Plan	Help plan an RI/FS	Remedial Action Master Plan, Midco I, Gary, Indiana November 1984	None	Karen Waldvogel Nancy Willis	NA
11/27/84	Jim Knoy, U.S. EPA, Region V	Site Inspection Photos	Respond to reports of dumping on on the site	11/27/84 Memo from Jim Knoy	None	Karen Waldvogel	NA
2/27/85	U.S. EPA, RV Richard Boice John Perreconi Art Glazer Indiana State Board of Health Art Murphy Kathy Lynch City of Hammond Ron Novak Dan Golec City of Gary Dennis McGuire (Public Affairs has complete list of attendees)	Public Meeting	Inform community of RI/FS procedures & studies	2/27/85 trip report by Rich Boice	None	Rich Boice John Perreconi	NA

TABULATION O. J.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
6/16/77	Indiana State Board of Health Jim Hunt Rick Stapinski	Sample wastes		Water sample identification sheets	PCB's cyanide metals	Indiana State Board of Health	NA
8/2/79	U.S. EPA RV Alan Bauman Dr. Eugene Meyer Michael Berman	Site inspection Site photos	Record information on site hazards and evaluate site hazards	8/7/79 Memo from Dr. Eugene Meyer	None	Jay S. Goldstein William Miner	NA
	Pete Tedeschi, U.S. EPA, RV	Conduct radiation survey	Check radiation hazard site	8/13/79 memo J.M. Boyle	Radiation detection	Pete Tedieschi	NA
8/28/79	U.S. EPA, RV Sylvester Bernatos Kevin Stifter. Alan Bauman	Collect Samples of waste, & surface water & sediment	Enforcement support; Obtain analytical information to help in evaluation of site hazards	10/30/79 Memo from L.E. Townsend Field sheets 9/25/79 Memo from Curtis Ross	13 samples: metals & cyanide 4 samples: base-metal organics	L.E. Townsend Ross Libby Sandra Gardebring Alan Bauman Jonathan Barney	NA
12/14/79	U.S. EPA, Alan Bauman	Site visit	Check site activities	None	None	Bill Miner	NA
12/27/79	U.S. EPA RV Rick Shandross	Site visit	Check site activities	None	None	Jay Goldstein	NA
4/7/80	U.S. EPA RV Alan Bauman	Take aerial photos	Enforcement support	Aerial Photos	None	Alan Bauman William Miner	NA

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
			Obtain information to help in hazard assessment				
5/20/80	U.S. EPA, RV Alan Bauman	Aerial photo Ground photos	Enforcement support Obtain information to help in hazard assessment	Photos	None	Alan Bauman Bill Miner	NA
12/17/80	U.S. EPA, RV Alan Bauman	Photos Number Drums	Enforcement support Prep for sampling	Photos	None	Bill Miner	NA
11/24/80	Ecology & Environment Mike McCarrin C.F. Beize John Ceroke U.S. EPA, RV Jim Pankanin	TDD#F5-8011-2 Determine locations of discharge of pipes on-site	Information for enforcement support and hazard evaluation	11/25/80 Site Inspection Report by Mike McCarrin 12/1/80 Memo from Mike McCarrin Sample Evidence Profiles	None	Jim Pankanin Bill Miner Tom Yeates	NA
2/9/81	U.S. EPA, RV Erin M. Moran Alan Bauman	sample waste	Enforcement support	Sample Evidence Profiles	4 samples for cyanide only	Roscoe Libby L.E. Townsend	NA

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
			Hazard evaluation	3/9/81 Memo from Erin M. Moran			

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURSUANT TO CERCLA 106	PURPOSE	DOCUMENTS GENERATED	ANALYSES PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
2/9/81	National Enforcement Investigation Center, U.S. EPA Ron Snyder Al Bandu June Hartley U.S. EPA, RV Alan Bauman	Collect waste samples from drums & tanks		Enforcement support Hazard evaluation	Sample Evidence Profiles 10/1/81 Memo from June Hartley 2/19/81 Letter from Barry E. North of Fred C. Hart Assoc.	14 samples for: cyanide metals organics	Alan Bauman Sandra Gardebring Richard W. Warner	NA
4/28/81	U.S. EPA, RV George Madany Ecology & Env. Scott McCone	Measure length of fencing to enclose drum area		Install fence to limit access to the site	6/10/81 memo from George Madany	None	Greg Vanderlaan	NA
7/81	U.S. EPA, RV Beverly Kush George Madany Richard Bartelt U.S. EPA Headquarters Paul Beam	Observe site conditions		Help plan future actions	None	None	Richard Bartelt	NA

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
7/29-8/6/81	U.S.S. Cyclone Fence (Contractor) Ecology & Environment George Hadany, U.S. EPA	Install fence around drum area Oversight, Keep records Oversight, On-Scene Coordinator	Limit access to the site to prevent exposure to hazardous chemicals	Tabulation of Hidco I & II fencing costs 4/1/82 Telephone call from James Rogers, U.S. Coast Guard 4/13/82 Letter from George Hadany 5/7/82 Memo from Commander Ninth Coast Guard District 5/7/82 proposal from Fondessy Log of Daily Activity POLREP 3 & 4 4/7/82 Letter from U.S. Steel Corp.	None	George Hadany	Limited bidding Bids obtained from 5 firms
10/81	E.V. Dabney, Environmental	Aerial Photographic Analysis including historical	Evaluate historical development of site	"Aerial Photographic Analysis of Hazardous Waste Study Sites, Gary, Indiana",	None	Beverly Kush Greg Vanderlaan G.A. Shelton, Project Officer, EMSL	NA

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	Programs, Lock-Heed Engineering and Management Services Co.	aerial photographs	Evaluate drainage from site Evaluate vegetation damage	October 1981 by E.V. Dabney			
/81-5/83	Ecology & Environment C.F. Beize	TDDR5-8107-01A	Identification of contaminants present in soil and ground water, determination of ground water flow characteristics, and evaluation of extent of contamination attributable to site operations	"Hydrogeologic Report on the Hidco II Hazardous Waste Site," May 1983 by C.F. Beize Sample Evidence Profiles		Beverly Kush Greg Vanderlaan Richard Bartelt Thomas Yeates	NA
/8/81		Site reconnaisance					
/13-15/81		Installation of peizometers P1 & P2					
/17/81		Water level measurements, surveying					
/4/81		Installation of peizometer P3					

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
8/26/81		Water level measurements, surveying					
11/11-12/81		Installation of monitoring wells BW1-5 Soil sampling			4 composite soil samples for: medium hazard organics, metals, cyanide		
11/17-18/81		Monitor well development, surveying, sampling			5 monitor well samples for: medium hazard organics, metals & cyanide		
12/1/81		Water level measurements, Monitoring well sampling			6 water samples for organics, metals & cyanide		
3/12/82		Physical site measurements					
11/3/82		Monitoring well and surface water sampling			9 water samples for metals & cyanide		
11/15/82		Water level measurements Physical site measurements surveying.					

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
12/1/82		Water level measurements					
12/29/82		Pre-drilling inspection					
1/4-5/83		Installation of monitoring wells X-1-6 and soil sampling			7 soil samples for: organics, metals, cyanide		
1/11-12/83		Monitoring well development Monitoring well and surface water sampling. Surveying			15 water samples for: organics, metals, cyanide		
1/21/83		Water level measurements					
11/9/82	U.S. EPA, RV Beverly Kush Michael Berman Andrew Baker, U.S. Attorney's Office Dale Robinson Ernie DeHart	Locate areas of buried or spilled wastes	Aid in site remedial actions	None	None	Beverly Kush Michael Berman	

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
6/2/82	Ecology & Environment C.F. Beize	TDD R5-8107-01B Estimate number of drums containing hazardous wastes	Hazard evaluation Aid in determining need for a surface removal action	6/2/82 Memo from C.F. Beize	None	Beverly Kush Richard Bartelt Thomas Yeates	
8/10/82	U.S. EPA RV Dr. David Homer Karen Waldvogel Weston Jeff Stauffacher Doug Balloti	site observations Photos Check for fugitive air contaminants TDD 5-8306-27	Help Dr. David Homer in preparation of an endangerment assessment Check for presence of fugitive air contaminants Evaluate need for an immediate surface removal	8/10/83 Memo from Dr. David Homer 10/25/83 Letter from Doug Ballotti 11/1/83 Memo from Robert Bowden	None Draeger tube check for cyanide vapors	Karen Waldvogel Robert Bowden	
12/12/83	Karen Waldvogel U.S. EPA Chemical Waste Mgt.	Site visit	Allow potential clean up contractor to observe site conditions	None	None	Karen Waldvogel	
8/12/83	Dr. David Homer, U.S. EPA, RV	Prepare endangerment assessment	Evaluate site hazards	Midco II Endangerment Assessment by Dr. David Homer	None	Karen Waldvogel	

TABULATION C .S. EPA ACTIVITIES AT THE MIDCO SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
9/19/83	U.S. EPA, RV Karen Waldvogel U.S. EPA, HQ Abraham Mittleman Sharon Foote Kurt Lamber Dr. Keros Cartwright, Hydrogeological Consultant	Site observations	Familiarize Dr. Cartwright and Headquarters staff with the Midco sites	9/19/83 Memo	None	Karen Waldvogel	
9/8/83	Ecology & Environment Don Woods Claude Mays Clarence Beize	TDD R5-8308-7 Check for fugitive organic vapor emissions	Evaluate hazards of working on site and the need for removal of surface wastes	9/21/83 Memo from Don Woods	HNV and OVA readings	Karen Waldvogel Thomas Yeates	
10/83	Weston-Sper, Technical Assistance Team	TDD5-8306-27	Recommend clean up actions and estimated costs	"Site Assessment for Midco II, Gary, Indiana," October 1983	None	Robert Bowden	
11/3/83	Ecology & Environment C.F. Beize D. Cozza T. Koch C. Mays	TDD R05-8311-01 Site Inspection Collect surface water and on-site soil samples	Help evaluate site hazards	11/9/83 Potential Hazardous Waste Site Inspection Report by C.F. Beize Organics and Inorganics analysis Data Sheets	metals cyanide organics	Karen Waldvogel Thomas Yeates	

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
				12/5/83 Memo from Curtis Ross 12/20/83 Memo from Curtis Ross 1/4/84 Memo from Cynthia Bachunas Data tabulations Map showing sampling locations			
11/7-8/83	O & M Materials U.S. EPA, RV Karen Waldvogel ENRAC Geoscience Woodward-Clyde CECOS Geralty-Miller	Site visits	Allow potential clean up or RI/FS contractors to observe the site	None	None	Karen Waldvogel	
12/12/83	Karen Waldvogel, U.S. EPA, RV	Site visit	Allow potential cleanup contractor to observe site conditions	None	None	Karen Waldvogel	
8/12/83	Dr. David Homer, U.S. EPA, RV	Prepare Endangerment assessment	Evaluate site hazards	Midco II Endangerment Assessment by David Homer	None	Karen Waldvogel	

TABULATION OF U.S. EPA ACTIVITIES AT THE HIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
1/84	CH2M-Hill Phil Smith	W65227.00	Cost estimate for surface cleanup	1/30/84 Hand-written Memo from Phil Smith and attachments	None	Karen Waldvogel Nancy Willis	NA
2/13/84	Doug Ballotti Weston-Sper U.S. EPA, RV Charles Castle	Site evaluation visit	Reassess need for an immediate surface removal	2/13/84 Trip Report by Karen Waldvogel	None	Bob Bowden Karen Waldvogel	NA
2/23-5/14/84	Mid-America Environmental Services (prime contractor) Subcontractors: Illiana Fence Gulf Coast Labs LWD Wayne Disposal Jack Gray Trucking Airborn Jones Electric NIPSCO Ameritech Mobile Motorola Communications Weston-Sper Technical Assistance Team	Removal and disposal of 413 drums of hazardous waste oversight record-keeping air monitoring sampling	Eliminated human health and environmental hazard due to improper storage of hazardous wastes in drums	2/24/84 Letter from Ronald G. Blankenbaker, ISBH 10/24/83 Letter from David D. Lamb, ISBH 3/14/84 Action Memo from William Sanders to Valdus Adamkus 4/17/84 Delivery Order signed by Robert Bowden 4/23/84 Emergency Action Memo from William	Weston-Sper 1/16/84 4 soil samples for (sludge pi & underground tank): metals cyanide organics 5/9/84 1 sample from filter bed for: metals cyanide organics 4/27/84 Sampling	Valdus K. Adamkus Robert Bowden William Simes	Contractor procured through the National ERCS contract

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	William Simes, U.S. EPA	On-Scene Coordinator		Sanders to Valdus V. Adamkus On-Scene Coordinator's Report by William Simes (not yet finalized) Sample Evidence Profiles	by Mid America for disposal: chlorine % ash % cyanides sulfides PCB's flash point reactivity com- patibility	Steve Ostradka	NA
	Steve Ostadka, U.S., EPA RV	Film site and removal activities	Historical record Employee training	List of scenes			
4/23-24/84	Ecology & Environment Terry Kelly	Drum & tank sampling	Enforcement support	5/3/84 Memo from Jerry Kelly with attachments print out of preliminary data	42 high hazard samples collected	Karen Waldvogel	NA
4/26/84	U.S. EPA, RV Vanessa Musgrave Bob Martian	Site visit	Provide information to the public and the news media	On-Scene Coordinator's Report by William Simes	None	Bob Hartain Vanessa Muskgrave	NA

TABULATION OF U EPA ACTIVITIES AT THE MIDCO II E

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
	Joe Tasek Jim Eldert Steve Nelson Matthew Radek Joe Jarek Mike McKinney Ecology & Environment Clarence Beize Dan Sewall Renee Hicks						
1/3/84	O & H Materials, Contractors	Additional surface removal	Eliminate hazard due to improper storage of hazardous wastes on the surface of the site	11/2/84 Letter from Jacquilien Strecker, ISBH 12/14/84 Memo from William N. Hedeman to Valdus V. Adamkus (Additional documentation is not yet available)	(Sampling results are not yet available)	Lee Thomas Bob Hedeman Valdus Adamkus Bob Bowden	NA
	William Simes	On-Scene Coordinator					

TABULATION OF U.S. EPA ACTIVITIES AT THE MIDCO II SITE

DATE	PARTICIPANTS	TASK	PURPOSE	DOCUMENTS GENERATED	ANALYSIS PERFORMED	PERSON(S) AUTHORIZING WORK	BIDDING
1/10/85	U.S. EPA, RV Karen Waldvogel Rich Boice Mike Strimbu Robert Bowden	Site visit	Orient new managers to site Review site activities & paper work	None	None	Bob Bowden Karen Waldvogel	NA

DEPOSITION EXHIBIT

Boice 57
8-21-90 cg

DOCUMENTS CITED U.S. ANSWERS TO INTERROGATORIES

Date: 08/20/90

DATE	TITLE	AUTHOR	DESIGNATION
06/16/77	WATER SAMPLE IDENTIFICATION SHEETS	-0-	EXHIBIT C II
12/13/78	MIDCO SITE VISIT & RECOMMENDATION BY JOE BOYLE	BOYLE, JOE	EXHIBIT C I
03/26/79	3/26/79 MEMO FROM KAY HOLUB	HOLUB, KAY	EXHIBIT C I
04/24/79	WATER SAMPLING IDENTIFICATION SHEETS	-0-	EXHIBIT C I
05/18/79	5/18/79 INSPECTION REPORT	-0-	EXHIBIT C I
05/25/79	5/25/79 MEMO FROM CURTIS ROSS	ROSS, CURTIS	EXHIBIT C I
06/08/79	6/8/79 LETTER FROM BOOKER SLOAN	SLOAN, BOOKER	EXHIBIT C I
06/15/79	6/15/79 MEMO FROM JIM KING	KING, JIM	EXHIBIT C I
07/09/79	7/9/79 MEMO FROM DR. EMILO STURINO	STURINO, DR. EMILO	EXHIBIT C I
08/07/79	8/7/79 MEMO FROM DR. EUGENE MEYER	MEYER, DR. EUGENE	EXHIBIT C I
08/07/79	8/7/79 MEMO FROM DR. EUGENE MEYER	MEYER, DR. EUGENE	EXHIBIT C II
08/13/79	8/13/79 MEMO J.M. BOYLE	BOYLE, J.M.	EXHIBIT C II

DATE	TITLE	AUTHOR	DESIGNATION
09/25/79	9/25/79 MEMO FROM CURTIS ROSS	ROSS, CURTIS	EXHIBIT C II
10/30/79	10/30/79 MEMO FROM L.E. TOWNSEND FIELD SHEETS	TOWNSEND, L.E.	EXHIBIT C II
11/16/79	11/16/79 MEMO FROM DR. EMILO STURINO	STURINO, DR. EMILO	EXHIBIT C I
01/02/80	1/2/80 SEEK & FIND INFORMATION	-0-	EXHIBIT C I
01/18/80	1/18/80 MEMO FROM MIKE BERMAN	BERMAN, MIKE	EXHIBIT C I
04/07/80	AERIAL PHOTOS	-0-	EXHIBIT C I
04/07/80	AERIAL PHOTOS	-0-	EXHIBIT C II
05/20/80	PHOTOS	-0-	EXHIBIT C II
11/24/80	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C II
11/25/80	11/25/80 SITE INSPECTION REPORT BY MIKE MCCARRIN	MCCARRIN, MIKE	EXHIBIT C II
12/01/80	12/1/80 MEMO FROM MIKE MCCARRIN	MCCARRIN, MIKE	EXHIBIT C II
12/17/80	PHOTOS	-0-	EXHIBIT C II
02/09/81	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C II

DATE	TITLE	AUTHOR	DESIGNATION
02/09/81	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C II
02/19/81	2/19/81 LETTER FROM BARRY E. NORTH OF FRED C. HART ASSOC.	NORTH, BARRY E.	EXHIBIT C II
03/09/81	3/9/81 MEMO FROM ERIN M. MORAN	MORAN, ERIN M.	EXHIBIT C II
04/01/81	SAMPLE EVIDENCE PROFILE	-0-	EXHIBIT C I
04/01/81	REQUEST FOR LABORATORY ANALYSES	-0-	EXHIBIT C I
04/10/81	4/10/81 MEMO FROM ALAN BAUMAN	BAUMAN, ALAN	EXHIBIT C I
05/07/81	5/7/81 PROPOSAL FROM FONDESSY	FONDESSY	EXHIBIT C I
05/07/81	POLREP 1 & 2 MEMO FROM COMMANDER NINTH COAST GUARD DISTRICT	-0-	EXHIBIT C I
05/19/81	5/19/81 LETTER FROM INTEL	INTEL	EXHIBIT C I
06/01/81	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C II
06/02/81	TABULATION OF MIDCO I & II FENCING COSTS	-0-	EXHIBIT C I
06/02/81	MAILGRAM FROM CHARLE LITCHT	LITCHT, CHARLE	EXHIBIT C I
06/02/81	6/2-9/81 DAILY SUMMARY "311 K" CLEANUP	-0-	EXHIBIT C I

DATE	TITLE	AUTHOR	DESIGNATION
06/10/81	6/10/81 MEMO FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I
06/10/81	6/10/81 MEMO FROM GEORGE MADANY	MADANY, GEORGE.	EXHIBIT C II
06/10/81	6/10/81 MEMO FROM GEORGE H. MADANY	MADANY, GEORGE H.	EXHIBIT C I
06/11/81	6/11/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
06/12/81	6/12/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
06/13/81	INITIAL SPILL REPORT	-0-	EXHIBIT C I
06/13/81	WATER SAMPLE IDENTIFICATION SHEETS	-0-	EXHIBIT C I
06/14/81	6/14/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
06/17/81	REGION V BASIC DATA FORM	-0-	EXHIBIT C I
06/19/81	6/19/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
07/07/81	7/7/81 MEMO FROM GEORGE H. MADANY	MADANY, GEORGE H.	EXHIBIT C I
07/20/81	7/20/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
07/23/81	7/23/81 MEMO FROM GERG VANDERLAAN	VANDERLAAN, GREG	EXHIBIT C I

DATE	TITLE	AUTHOR	DESIGNATION
07/29/81	TABULATIONS OF MIDCO I & II FENCING COSTS	-0-	EXHIBIT C II
08/17/81	8/17/81 MEMO FROM GREG VANDERLAAN WITH: JUSTIFICATION FOR LIMITTED COMPETITION; PROCUREMENT REQUEST RATIONALE	VANDERLAAN, GREG	EXHIBIT C I
10/01/81	10/1/81 MEMO FROM JUNE HARTLEY	HARTLEY, JUNE	EXHIBIT C II
10/01/81	"AERIAL PHOTOGRAPHIC ANALYSIS OF HAZARDOUS WASTE STUDY SITES, GARY, INDIANA" OCTOBER 1981	DABNEY, E.V. LOCKHEED	EXHIBIT C I
10/01/81	"AERIAL PHOTOGRAPHIC ANALYSIS OF HAZARDOUS WASTE STUDY SITES, GARY, INDIANA" OCTOBER 1981 BY E.V. DABNEY	DABNEY, E.V.	EXHIBIT C II
10/21/81	10/21/81 MEMO FROM BASIL G. CONSTANTELOS	CONSTANTELOS, BASIL G.	EXHIBIT C I
11/03/81	11/3/81 INSPECTION REPORT	-0-	EXHIBIT C I
11/10/81	AERIAL PHOTOS	-0-	EXHIBIT C I
11/17/81	11/17/81 MEMO FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I
11/18/81	AMENDMENT OF SOLICITATION	-0-	EXHIBIT C I
11/23/81	11/23/81 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
11/30/81	REQUEST FOR PROPOSALS	-0-	EXHIBIT C I
12/16/81	MEMO FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I

DATE	TITLE	AUTHOR	DESIGNATION
12/31/81	12/13/81 MEMO FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I
01/04/82	1/4/82 REQUEST FOR TECHNICAL EVALUATION OF REQUEST FOR PROPOSAL FROM PAIGE PECK	-0-	EXHIBIT C I
01/06/82	1/6/82 MEMO FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I
01/12/82	MIDCO DAILY LOGS 1/12/82 - 7/7/82	-0-	EXHIBIT C I
02/06/82	QUESTIONS & ANSWERS ON MIDCO I PROPOSAL	-0-	EXHIBIT C I
02/06/82	MIDCO FINAL STATUS REPORT, 2/6/82 - 7/8/82 BY CHEMICAL WASTE MANAGEMENT	CHEMICAL WASTE MANAGEMENT	EXHIBIT C I
02/06/82	AIR MONITORING LOG BOOK	-0-	EXHIBIT C I
02/06/82	PROPOSAL FROM CHEMICAL WASTE MANAGEMENT	-0-	EXHIBIT C I
02/06/82	CWM INVOICES	CHEMICAL WASTE MANAGEMENT	EXHIBIT C I
02/06/82	POLYREPS 5, 6, 7, 8, 9, 10, 11	-0-	EXHIBIT C I
02/06/82	OSC'S CERTIFICATIONS	-0-	EXHIBIT C I
02/06/82	SAMPLE EVIDENCE PROFILES (AIR MONITORING RESULTS)	-0-	EXHIBIT C I
02/06/82	BIWEEKLY STATUS REPORTS BY CHEMICAL WASTE MANAGEMENT	CHEMICAL WASTE MANAGEMENT	EXHIBIT C I

DATE	TITLE	AUTHOR	DESIGNATION
02/06/82	MANIFEST FOR TRANSPORT AND DISPOSAL	-0-	EXHIBIT C I
02/06/82	TECHNICAL EVALUATION SHEETS	-0-	EXHIBIT C I
02/06/82	OSC'S LOG BOOK	-0-	EXHIBIT C I
02/26/82	MIDCO I INCIDENT OBLIGATION LOG: CERCLA DAILY SUMMARY SHEETS; DAILY PERSONNEL LOGS 2/26 - 7/7/82	-0-	EXHIBIT C I
03/02/82	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C I
03/12/82	3/12/82 MEMO FROM H.D. VAN CLEAVE	VAN CLEAVE, H.D.	EXHIBIT C I
03/30/82	3/30/82 MEMO FROM WILLIAM HADEMAN TO CHRISTOPHER J. CAPPER	HADEMAN, WILLIAM	EXHIBIT C I
04/01/82	4/1/82 TELEPHONE CALL FROM JAMES ROGERS, U.S. COAST GUARD	ROGERS, JAMES U.S. COAST GUARD	EXHIBIT C II
04/01/82	4/1/82 MEMO FROM CHRISTOPHER J. CAPPER TO THE ADMINISTRATOR	CAPPER, CHRISTOPHER J.	EXHIBIT C I
04/01/82	4/1/82 TELEPHONE MEMO FROM JAMES ROGERS, U.S. COAST GUARD	ROGERS, JAMES U.S. COAST GUARD	EXHIBIT C I
04/02/82	WATER SAMPLE IDENTIFICATION SHEETS	-0-	EXHIBIT C I
04/07/82	4/7/82 LETTER FROM U.S. STEEL CORP.	U.S. STEEL CORP.	EXHIBIT C II
04/13/82	4/13/82 MEMO FROM BEVERLY KUSH TO PAIGE PECK	KUSH, BEVERLY	EXHIBIT C I

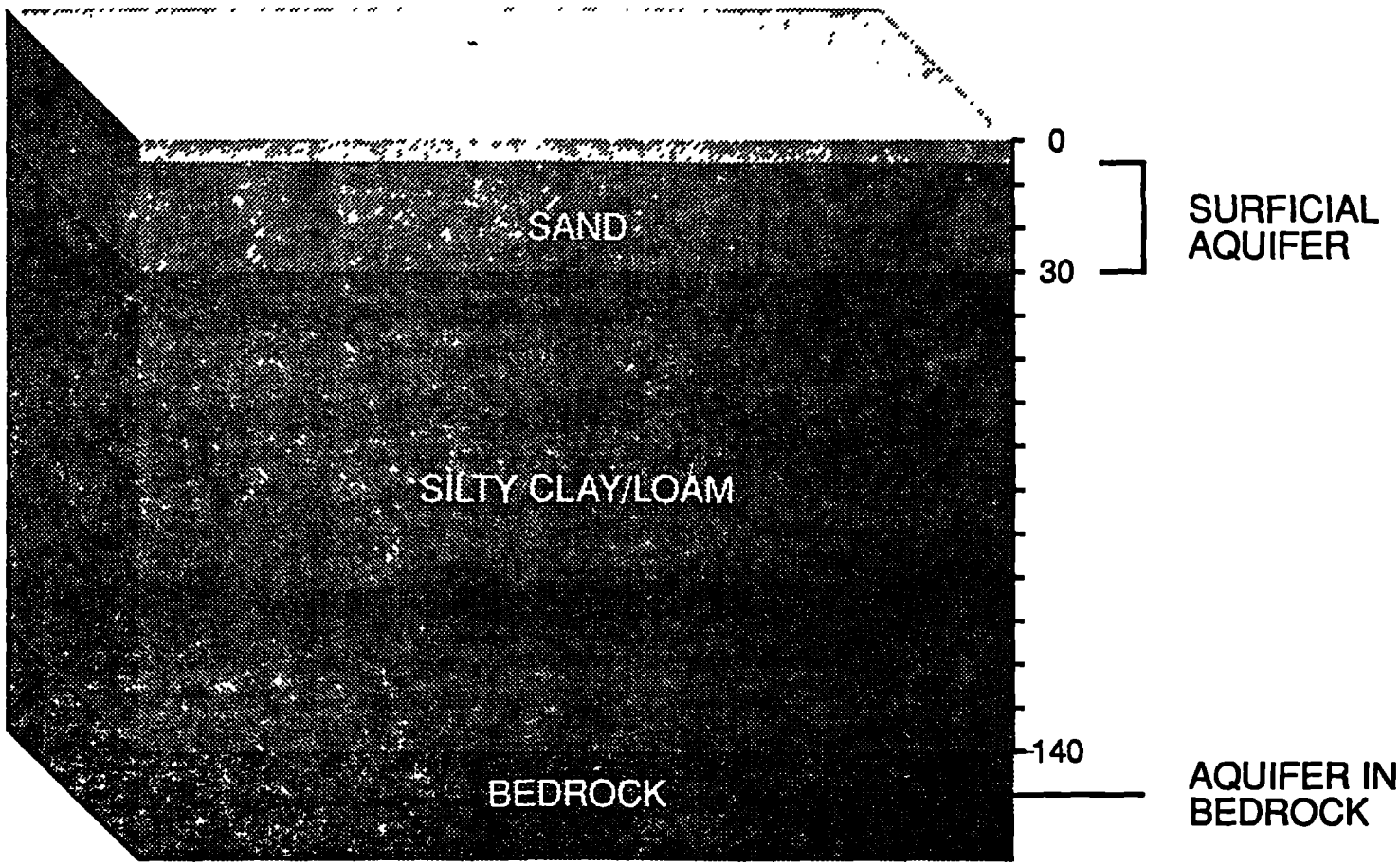
DATE	TITLE	AUTHOR	DESIGNATION
04/13/82	U.S. COAST GUARD; 4/13/82 LETTER FROM GEORGE MADANY	MADANY, GEORGE	EXHIBIT C I
04/13/82	4/13/82 LETTER FRO GEORGE MADANY	MADANY, GEORGE	EXHIBIT C II
04/21/82	4/21/82 MEMO FROM TAT	TAT	EXHIBIT C I
04/22/82	4/22/82 MEMO FROM SCOTT MCCONE AND ATTACHMENTS	MCCONE, SCOTT	EXHIBIT C I
05/07/82	5/7/82 MEMO FROM COMMANDER NINTH COAST GUARD DISTRICT	COMMANDER NINTH COAST GUARD DISTRICT	EXHIBIT C II
05/07/82	5/7/82 PROPOSAL FROM FONDESSY LOG OF DAILY ACITVITY POLREP 3 & 4	-0-	EXHIBIT C II
05/24/82	MIDCO I HAZARDOUS WASTE SITE EXTENT OF CONTAMINATION STUDY BY THE EMERGENCY RESPONSE TEAM MARCH 1983	-0-	EXHIBIT C I
06/02/82	6/2/82 MEMO FROM C.F. BEIZE	BEIZE, C.F.	EXHIBIT C II
06/02/82	6/2/82 MEMO FROM SCOTT MCCONE	MCCONE, SCOTT	EXHIBIT C I
06/03/82	6/3/82 MEMO FROM GEORGE R. PRINCE	PRINCE, GEORGE R.	EXHIBIT C I
06/07/82	6/7/82 MEMO FROM TAT	TAT	EXHIBIT C I
06/15/82	6/15/82 MEMO FROM ROBERT BOWDEN	BOWDEN, ROBERT	EXHIBIT C I
06/21/82	6/21/82 LETTER FROM DR. GARY F. STEIN	STEIN, DR. GARY F.	EXHIBIT C I

DATE	TITLE	AUTHOR	DESIGNATION
03/10/83	3/10/83 PRELIMINARY ASSESSMENT BY MARK LUNSFORD	LUNSFORD, MARK	EXHIBIT C I
04/07/83	"HYDROGEOLOGIC REPORT ON THE MIDCO I HAZARDOUS WASTE SITE: ADDENDUM APRIL 7, 1983, C.F. BEIZE	BEIZE, C.F.	EXHIBIT C I
05/01/83	"HYDROGEOLOGIC REPORT ON THE MIDCO II HAZARDOUS WASTE SITE," MAY 1983 BY C.F. BEIZE	BEIZE, C.F.	EXHIBIT C II
08/10/83	8/10/83 MEMO FROM DR. DAVID HOMER	HOMER, DR. DAVID	EXHIBIT C I
08/10/83	8/10/83 MEMO FROM DR. DAVID HOMER	HOMER, DR. DAVID	EXHIBIT C II
08/12/83	MIDCO II ENDANGERMENT ASSESSMENT BY DR. DAVID HOMER	HOMER, DR. DAVID	EXHIBIT C II
08/12/83	MIDCO II ENDANGERMENT ASSESSMENT BY DAVID HOMER	HOMER, DAVID	EXHIBIT C II
09/19/83	9/19/83 MEMO	-0-	EXHIBIT C I
09/19/83	9/19/83 MEMO	-0-	EXHIBIT C II
09/21/83	9/21/83 MEMO FROM DON WOODS	WOODS, DAN	EXHIBIT C II
10/01/83	"SITE ASSESSMENT FOR MIDCO II, GARY, INDIANA," OCTOBER 1983	-0-	EXHIBIT C II
10/24/83	10/24/83 LETTER FROM DAVID D. LAMB, ISBH	LAMB, DAVID D. ISBH	EXHIBIT C II
10/25/83	10/25/83 LETTER FROM DOUG BALLOTTI	BALLOTTI, DOUG	EXHIBIT C II

DATE	TITLE	AUTHOR	DESIGNATION
11/01/83	11/1/83 MEMO FROM ROBERT BOWDEN	BOWDEN, ROBERT	EXHIBIT C II
11/03/83	MAP SHOWING SAMPLING LOCATIONS	-0-	EXHIBIT C II
11/03/83	ORGANICS AND INORGANICS ANALYSIS DATA SHEETS	-0-	EXHIBIT C II
11/03/83	DATA TABULATIONS	-0-	EXHIBIT C II
11/09/83	11/9/83 POTENTIAL HAZARDOUS WASTE SITE INSPECTION REPORT BY C.F. BEIZE	BEIZE, C.F.	EXHIBIT C II
12/05/83	12/5/83 MEMO FROM CURTIS ROSS	ROSS, CURTIS	EXHIBIT C II
12/20/83	12/20/83 MEMO FROM CURTIS ROSS	ROSS, CURTIS	EXHIBIT C II
12/22/83	12/22/83 MEMO FROM VALDUS V. ADAMKUS	ADAMKUS, VALDUS V.	EXHIBIT C I
01/04/84	1/4/84 MEMO FROM CYNTHIA BACHUNAS	BACHUNAS, CYNTHIA	EXHIBIT C II
01/30/84	1/30/84 HANDWRITTEN MEMO FROM PHIL SMITH AND ATTACHMENTS	SMITH, PHIL	EXHIBIT C II
02/13/84	2/13/84 TRIP REPORT BY KAREN WALDVOGEL	WALDVOGEL, KAREN	EXHIBIT C II
02/16/84	2/16/84 LETTER FROM GEORGE R. PRINCE	PRINCE, GEORGE R.	EXHIBIT C I
02/23/84	SAMPLE EVIDENCE PROFILES	-0-	EXHIBIT C II

DATE	TITLE	AUTHOR	DESIGNATION
02/23/84	LIST OF SCENES	-0-	EXHIBIT C II
02/23/84	ON-SCENE COORDINATOR'S REPORT BY WILLIAM SIMES (NOT YET FINALIZED)	SIMES, WILLIAM	EXHIBIT C II
02/24/84	2/24/84 LETTER FROM RONALD G. BLANKENBKER, ISBH	BLANKENBAKER, RONALD G.	EXHIBIT C II
03/14/84	3/14/84 ACTION MEMO FROM WILLIAM SANDERS TO VALDUS ADAMKUS	SANDERS, WILLIAM	EXHIBIT C II
04/17/84	4/17/84 DELIVERY ORDER SIGNED BY ROBERT BOWDEN	BOWDEN, ROBERT	EXHIBIT C II
04/23/84	4/23/84 EMERGENCY ACTION MEMO FROM WILLIAM SANDERS TO VALDUS V. ADAMKUS	SANDERS, WILLIAM	EXHIBIT C II
04/23/84	PRINT OUT OF PRELIMINARY DATA	-0-	EXHIBIT C II
04/26/84	ON-SCENE COORDINATOR'S REPORT BY WILLIAM SIMES	SIMES, WILLIAM	EXHIBIT C II
05/03/84	5/3/84 MEMO FROM JERRY KELLY WITH ATTACHMENTS	KELLY, JERRY	EXHIBIT C II
07/01/84	"FIELD SURVEY OF THE MIDCO I AND MIDCO II DISPOSAL SITES," JULY 1984	-0-	EXHIBIT C I
08/01/84	"DRAFT COMMUNITY RELATIONS PLAN," AUGUST 1984	-0-	EXHIBIT C I
11/01/84	REMEDIAL ACTION MASTER PLAN, MIDCO I, GARY, INDIANA NOVEMBER 1984	-0-	EXHIBIT C I
11/02/84	11/2/84 LETTER FROM JACQUILLEN STRECKER, ISBH	STRECKER, JACQUILLEN ISBH	EXHIBIT C II

DATE	TITLE	AUTHOR	DESIGNATION
11/27/84	11/27/84 MEMO FROM JIM KNOY	KNOY, JIM	EXHIBIT C I
12/14/84	12/14/84 MEMO FROM WILLIAM N. HEDEMAN TO VALDUS V. ADAMKUS	HEDEMAN, WILLIAM N.	EXHIBIT C II
02/27/85	2/27/85 TRIP REPORT BY RICH BOICE	BOICE, RICH	EXHIBIT C I



GEOLOGIC OVERVIEW
MIDCO I

DEPOSITION EXHIBIT

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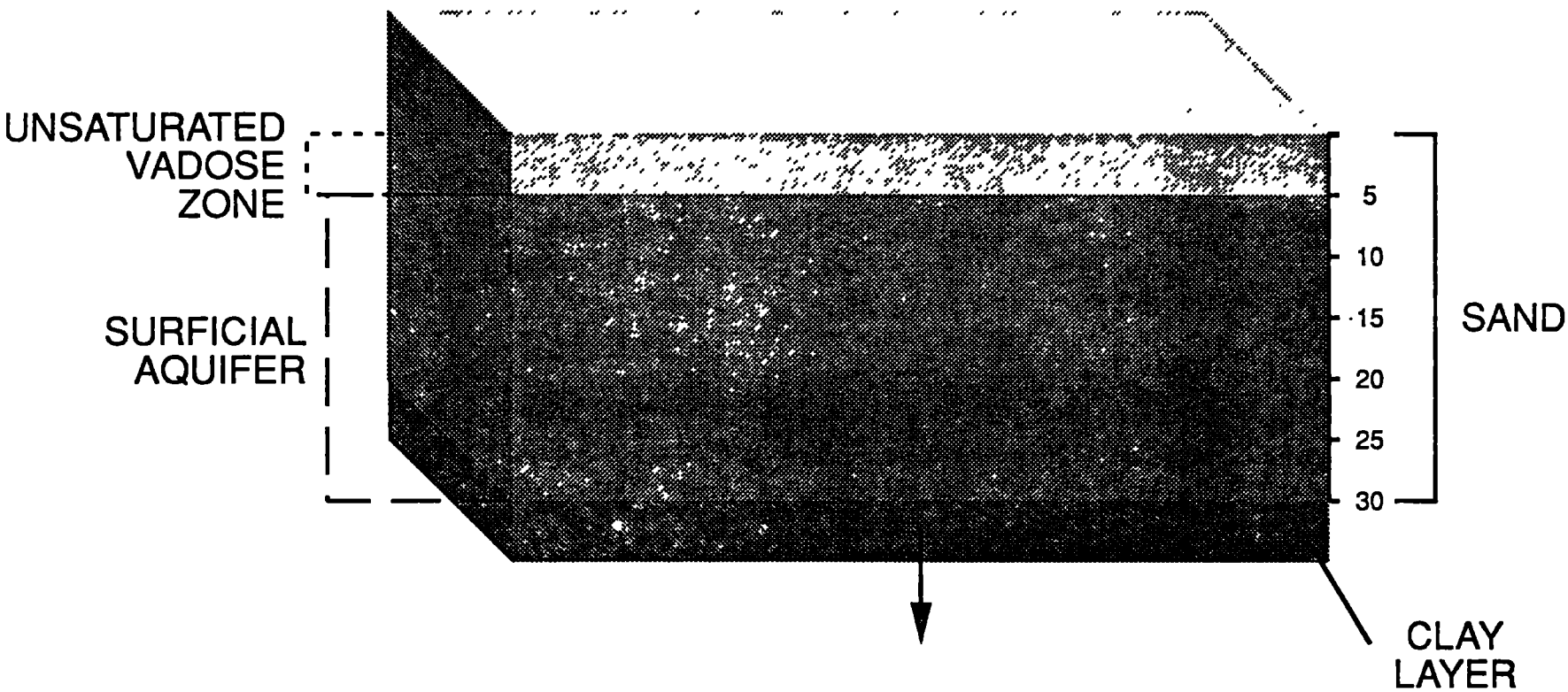

AREA OF REMEDIAL ACTIVITY
MIDCO I

DEPOSITION
EXHIBIT
Brice 54
8-21-90

Assessment for

MIDWEST INDUSTRIAL WASTE DISPOSAL COMPANY INC. (MIDCO II) SITE

GARY, INDIANA

DECEMBER 1, 1988

DEPOSITION EXHIBIT

Boice 63
8-21-90 Cg

SUMMARY

The 7-acre Midco II Site is located at 5900 Industrial Highway, Gary, Indiana. Various heavy metals, inorganic, and organic compounds were found in the media on-site. The environmental media of concern at the site are groundwater, surface water, and soil. Access to the site is restricted by a 10-foot fence. Although human exposure to on-site contaminants may have occurred prior to the installation of the security fence and may be occurring with on-site workers performing remedial or excavation activities, these exposures are not expected to result in adverse health effects. The environmental medium of interest off-site is groundwater. The nearest residence is located approximately 1 mile southeast of the site.

Potential human exposure to contaminants on-site and off-site via the environmental pathways mentioned above are evaluated in this health assessment. The remedial investigation did not contain surface soil, food chain and air monitoring data. Consequently, the exposure potential via these environmental media could not be addressed.

Although access to the Midco II site is restricted, the contaminants detected on-site will continue to migrate and may pose health threats until remedial activities are completed. Therefore, the Midco II site poses a potential health concern until an evaluation of the site is completed and remedial activities are chosen.

BACKGROUND

A. SITE DESCRIPTION

The Midwest Industrial Waste Disposal Company Inc. (Midco II) Site is located at 5900 Industrial Highway (U.S. Route 12) in Gary, Indiana. The site is bordered by an auto salvage yard on the northwest, a Conrail Railroad right-of-way on the northeast, private land on the southeast, and the Gary Municipal Airport on the southwest. A disposal pit (partially excavated) and sand filter bed are located on site. A drainage ditch, which flows southwesterly and parallel to the railroad right-of-way, is located in the northeast section of the site. The area between the disposal pit and the drainage ditch is marked by an escarpment, approximately 10 feet high, leading down to the ditch. Remnants of corroded and crushed steel drums are visible on the ground surface.

Midco II began operations in January 1977. The company temporarily stored bulk liquids and drums that were filled with wastes and reclaimable materials (neutralized acids and caustics) on-site. Midco II disposed of wastes by open dumping on-site. On April 25, 1977, a representative from the Indiana State Board of Health (ISBH) inspected the site as a follow-up

to complaints that Midco II was accepting cyanide wastes without adequate treatment and storage facilities. The inspection revealed 55-gallon drums containing oil sludges, chlorinated solvents, paint solvents, paint sludges, acids, and spent cyanides. The inspector also noted soils saturated with material from leaking drums and spillage, open drums of waste materials, an open dump consisting mainly of drums, tires, and wood wastes, and an excavation pit that contained unidentified sludges.

On August 15, 1977, a fire at Midco II destroyed equipment, buildings, and an estimated 50,000 to 60,000 drums, including 100 to 125 drums that contained cyanide. Sampling was conducted by the United States Environmental Protection Agency (USEPA) in August 1979 and February 1981. Additional sampling was conducted from 1981 to 1984.

From February to March 1984, the USEPA repaired and extended the site fence to restrict access, and sampled and removed 413 drums of wastes. The USEPA began removal of the sludge pit and filter bed contents in July 1985. The materials were excavated and placed in separate piles on the site. The sludge pit was backfilled with crushed stone and the filter bed was backfilled with crushed stone and debris from the site, such as old tires, tire rims, and construction waste. In December 1985 and January 1986, the polychlorinated biphenyl (PCB)-contaminated sludge pit soil, which had been stockpiled on-site, was removed and taken to a hazardous waste landfill in Alabama. The cyanide-contaminated soil from the filter bed remains stockpiled on-site.

A well inventory conducted for the area within 3 miles of the Midco II site located 165 water wells. Fourteen wells are within one mile of the site; 10 are in use, and 4 are not. Three of the wells are located in the deeper bedrock aquifer and belong to the Gary Airport (fire wells), Gary Development, and Thatcher Engineering Corporation. The remaining 11 wells are shallow wells completed in the upper sand aquifer and were installed either by local drillers or by their owners. Only one of these wells was being used (Raymond Cantu's well) during the inventory sampling (January 1986); it was abandoned by July 1986.

B. SITE VISIT

Information provided in the Remedial Investigation (RI) report was sufficient and extensive enough that a site visit was not deemed necessary for completing this Health Assessment.

A. ON-SITE CONTAMINATION

The following table shows the contaminants of concern at the Midco II site, the media that are contaminated, and the range of concentrations found in the various media.

MEDIUM	CONTAMINANT	LEVELS FOUND (ppm)
Subsurface Soil	Arsenic	2.0 - 55
Sludge Pits (sludge)	PCBs	17 - 92
	TCE	510 - 5200
	Lead	939 - 35500
Test Trenches (sediment)	Benzene	11.5 - 48.9
	TCE	1.25 - 2050
Surface Water	Arsenic	0.014 - 0.067
	Toluene	1.1 - 29.5
	Cyanide	ND - 4.8
	Lead	ND - 0.727
Groundwater	Arsenic	ND - 0.7J
	Lead	0.0056 - 0.263
	Benzene	< 0.01 - 0.515
	1,2-Dichloroethane	< 0.01 - 0.135
	1,1-Dichloroethane	2.6 - 5.2
	Chromium	0.011 - 1.12J
	Cyanide	0.158 - 7.83J
	TCE	44 - 240
	Toluene	35 - 84
	Sodium	82 - 190

NOTES:
Groundwater sampling dates: Dec. 1981, Nov. 1982, Jan. 1983.
Soil sampling date: Jan. 1983
Sludge sampling date: Jan. 1984

PCBs - polychlorinated biphenyls
TCE - trichloroethene
ND - Not detected
J - estimated value

B. OFF-SITE CONTAMINATION

Various organic compounds, including methylene chloride, tetrachloroethene, and chlorobenzene, were detected in off-site subsurface soils at concentrations which were lower than typical background levels.

Residential and industrial wells in the area were sampled and compared to drinking water standards and water quality criteria. Most of the wells showed elevated levels of sodium (25-740 ppm). Other wells contained cyanide (residential well/IIWGRC at 0.42 ppm) and benzene (industrial well/IIWGTE at 0.0025 ppm). According to the RI report, the majority of the wells are located in the upper sand aquifer (approximately 30 feet in depth). The RI report also stated that the water from the wells was only used for dishwashing and not drinking or cooking.

C. PHYSICAL HAZARDS

Some of the 55-gallon drums located on-site may pose a physical hazard to those that have access to the site if the drums are cut open, punctured, or otherwise damaged.

DEMOGRAPHICS AND LAND USE

The area surrounding the site is primarily industrial; however, ponded and vegetated areas which may provide fish and wildlife habitat are also evident. There are remnant natural areas and wetlands in the vicinity as well as areas of undeveloped land. Only a few residential homes are located in the area. The nearest residence is about 1 mile southeast of the site.

In response to site conditions, the USEPA funded the installation of a 10-foot fence around the site which restricts access. The fence was completed in August 1981.

EVALUATION

A. SITE CHARACTERIZATION

1. Environmental Media

Surface soil, food chain, and air sampling were not sampled during the RI. Sampling of all other environmental media was adequate in extent to complete this Health Assessment.

2. Land Use and Demographics

The information on land use and demographics provided by the RI report was sufficient to complete this Health Assessment.

3. Quality Assurance/Quality Control (QA/QC)

The conclusions contained in this report are based on the data package supplied to ATSDR. The accuracy of these conclusions is based on the reliability and availability of the data contained in the materials reviewed by the agency.

B. ENVIRONMENTAL PATHWAYS

The primary environmental media contaminated at the Midco II site is the residual soil. Groundwater contamination has resulted from leaching of contaminants by rainfall percolation through the soils. The groundwater underlying the site discharges to area surface waters. Surface waters and sediment contamination has resulted from transport of contaminants from the groundwater and surface runoff or from direct dumping of contaminants into the drainage ditch along the north side of the site.

Migration of contaminants off-site via groundwater seems to be occurring. Contaminants were found in wells located approximately 200 feet from possible source areas. Contamination was detected in an off-site monitoring well (MW-8), where an oily substance, that was not present on-site, was detected. Due to extreme sodium, potassium, and chloride contamination, water in the basal part of the surficial sand aquifer located under the Midco II site is currently not potable; however, the concentrations of these inorganics decreases as you move further away from the site. Some residents in the area do have wells in the surficial sand aquifer that may yield potable water.

There is the potential that some of the contaminants found at the site will volatilize from soils or surface waters (drainage ditch) and reach nearby residents via air. Contaminants could also volatilize while contaminated groundwater is being used for residential purposes (i.e., showering, dish washing,). Contaminated dust may also be generated by vehicles driven on the site or during remediation (excavation of soil) of the site.

Plant and animal life in the area may be contaminated. Adequate off-site sampling information is not available at this time.

C. HUMAN EXPOSURE PATHWAYS

The potential routes for human exposure to contaminants at the Midco II site are: ingestion, inhalation and dermal contact with contaminated soils (i.e., surface, sludge pits and test trenches) and surface and groundwater. Potential human exposure to on-site contaminants was limited to people having access prior to completion of the site fence and currently for workers performing remedial or excavation activities. The potential for nearby residents to be exposed to contaminated vapor or fugitive dust emissions from the site is limited because of the distance to the nearest residence (1 mile) from the site.

Nearby residents may come in contact with contaminated off-site groundwater. Some of the residents living within 1 mile of the Midco II site have used the groundwater for domestic purposes. The water is mostly used for dishwashing according to the RI report. Dermal and inhalation exposures would not be expected to pose potential health concerns because, cyanide in water is in the salt form (sodium cyanide) which is rarely absorbed through intact skin and is not volatile. The water from the industrial well contains benzene.

Human consumption of contaminated biota may result in potential exposure due to bioaccumulation and transport of contaminants via these food chain entities.

PUBLIC HEALTH IMPLICATIONS

Potential public health concerns associated with the Midco II site cannot be fully evaluated based on the information provided to ATSDR. Sampling data required to evaluate the exposure to contaminants in surface soil, air and food chain entities are not in reference documents and the health threats posed by exposures to these contaminated media cannot be evaluated. However, the health implications of contaminants present in other media at the site will be addressed.

SOILS

Surface soil sampling, on- and off-site, was not conducted. Consequently, the health threats that are posed by potential exposure to contaminated surface soil via indirect ingestion or inhalation of vapors or fugitive dust cannot be evaluated.

Subsurface soil sampling on-site revealed maximal levels of arsenic that exceed typical soil background levels. However, the possibility of exposure via ingestion or inhalation of fugitive dust and dermal contact is limited due to the depth of the contaminant in the soil and the presence of a 10-foot security fence restricting access to the site. It is possible that workers on site performing remedial or excavation activities could receive short-term inhalation and dermal exposure to vapor or fugitive dust emissions and contaminated soil, respectively. However, the exposure of the workers to arsenic on a short-term basis would probably not result in any health concern. The concentrations of several organics (i.e., methylene chloride, tetrachloroethene and chlorobenzene) in subsurface soil off-site were detected at levels below typical background values and do not pose public health concerns.

The sludge pit on site was contaminated with levels of PCBs, TCE and lead which represent significant carcinogenic risks with long-term oral exposure. Chronic ingestion of sludge is highly unlikely. Although people having had access to the site prior to the completion of the site

fence may have been exposed to these contaminants, these infrequent and short-term exposures should not have posed any health concerns. Additionally, wastes from the pit have been removed and relocated to a hazardous waste landfill in Alabama.

On-site test trenches were contaminated with high levels of benzene and TCE. Maximal levels detected for benzene and TCE pose significant carcinogenic risks for long-term oral exposure. Because access to the site is restricted, only workers performing on-site remedial or excavation activities would probably be exposed to the contaminants via short-term inhalation, inadvertent ingestion and dermal contact with vapor or fugitive dust emissions. However, exposure to these contaminants on a short-term basis would probably not pose any health threats.

SURFACE AND GROUNDWATER

Surface water (drainage ditch on-site) was contaminated with arsenic and lead. The highest concentrations for both metals exceed drinking water Maximum Contaminant Levels (MCLs). The maximal levels of toluene and cyanide were higher than the health advisories for ingestion of these contaminants. Cyanide, at the maximal concentration, exceeds the acceptable health based criterion for ingestion . No one is expected to intentionally consume on-site surface water, however. Access to the site is restricted. Access to the site before the completion of the site fence may have resulted in exposure. However, exposure on an infrequent and short-term basis would not be expected to be of any health concern. Metals, volatile organics and cyanide were detected in groundwater on site. The maximal levels for metals and volatile organics exceed drinking water MCLs. Cyanide, at the maximal concentration, exceeds the drinking water health advisory for this contaminant. Because no one lives on the site and access is restricted, these contaminant levels are not of public concern. Again, it is possible that workers performing on-site remedial tasks involving excavation activity could receive short-term dermal and inhalation exposure to contaminated groundwater; however, exposures of this duration would probably not be a health concern.

The sampling of a residential well (IIWGRC) revealed a maximal level of cyanide in groundwater that was higher than the short-term drinking water health advisory. Because the water probably was not used as potable water, ingestion exposure is not a health concern. Additionally, this well was abandoned by July 1986.

The level of benzene determined in the industrial well (IIWGTE) could result in a potentially significant carcinogenic risk with long-term oral exposure. Infrequent and short-term inhalation exposures, which those at the site would be, do not appear to present any concerns for public health.

An oily contaminant present in an off-site monitoring well, MW-8, is apparently not attributed to the Midco II site. The oily substance

appears to have originated with the auto salvage yard northwest of the site. There were also higher levels of polynuclear aromatic hydrocarbons at MW-8 than detected on site. The direction of groundwater flow is to the northeast and southeast. Therefore, the contaminants found at MW-8 have probably migrated toward the site. Presently these contaminant levels are of no health concern.

The sodium concentrations were elevated in all groundwater samples on and off-site. The high salt content seems to have resulted from an aluminum-rich waste material used as fill in the area before Midco II activities. The levels of sodium detected may be a concern for people on low sodium diets who may be drinking the water. Because none of the groundwater sampled is being used for drinking purposes, there is little potential for this sensitive subpopulation to be exposed to the elevated sodium concentration in the water.

AIR

The potential for contaminants found on site to migrate through the air to nearby residents cannot be evaluated at this time. Air monitoring data was not included in the reference material. Although this information was not provided, the nearest residence to the site is located approximately 1 mile away and therefore exposures via air do not appear to be of concern at this site.

FOOD CHAIN

Data needed to evaluate the issues of bioaccumulation and transport of contaminants via food chain entities with subsequent human ingestion was not available. This potential exposure route cannot be evaluated at this time. However, this environmental pathway may be of little concern due to industry predominating in the area.

CONCLUSIONS AND RECOMMENDATIONS

From the information reviewed, ATSDR has concluded that the Midco II site is of potential public health concern because of the potential risk to human health resulting from possible exposure to hazardous substances at concentrations that may result in adverse health effects. As noted in the Environmental and Human Exposure Sections of this Health Assessment, human exposure to on-site contaminants may have occurred and may be occurring, but these exposures, as addressed in the public health implications, would not be expected to result in adverse health effects.

Although migration of contaminants off-site via groundwater has occurred, the absence of or limited exposure to, these contaminants does not suggest public health threats. Until remedial activities at the site are completed, migration of on-site contaminants will probably continue and

may pose future potential health concerns. Potential health threats resulting from human exposure to contaminants via surface soil, food chain entities and air were not evaluated because the data was not available.

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended, the Midco II Site, Gary, Indiana has been evaluated for appropriate follow-up with respect to health effects studies. Inasmuch as there is no extant documentation or indication in the information and data reviewed for this Health Assessment that human exposure to on-site or off-site contaminants is currently occurring or has occurred in the past, this site is not being considered for follow-up health studies at this time. However, if data become available suggesting that human exposure to significant levels of hazardous substances is currently occurring or has occurred in the past, ATSDR will reevaluate this site for any indicated follow-up.

ATSDR recommends the following for the protection of human health on and near the site:

1. Surface soil sampling should be conducted so that exposure via this medium for those that have assess to the site can be adequately assessed.

2. Continued sampling of groundwater off site may be necessary to monitor the extent of migration of the contaminants from on-site sources to residential areas.

4. Adequate dust control procedures should be implemented during any future remedial activities. On-site workers should use adequate protective gear, in accordance with OSHA standards and NIOSH guidelines, during remedial activities.

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REFERENCES

1. Remedial Investigation Report for Midwest Waste Disposal Company, Inc. (Midco II), Gary, Indiana, Public Comment Draft, March 1988.

United States
Environmental Protection
Agency

Office of Public Affairs
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Ohio Wisconsin

EPA

SUPERFUND FACT SHEET

Midco I and II

Gary, Indiana

April 1989

DEPOSITION EXHIBIT
Boice 64
8-21-90 aj

U.S. EPA describes options, selects preferred alternative

This fact sheet . . .

- provides site backgrounds and diagrams, pages 2-3.
- presents remedial alternatives and U.S. EPA's preferred alternative, pages 2-7.
- includes an alternative comparison chart, pages 6-7.
- discusses the contaminants and risk to public health and the environment, pages 8-9.
- announces a public meeting and comment period, pages 9-10.
- explains site terms in glossary section, pages 11-12.

Introduction

The U.S. Environmental Protection Agency (U.S. EPA) and the Indiana Department of Environmental Management (IDEM) recently reviewed options to address the contamination at the Midco I and II sites in Gary, Indiana.

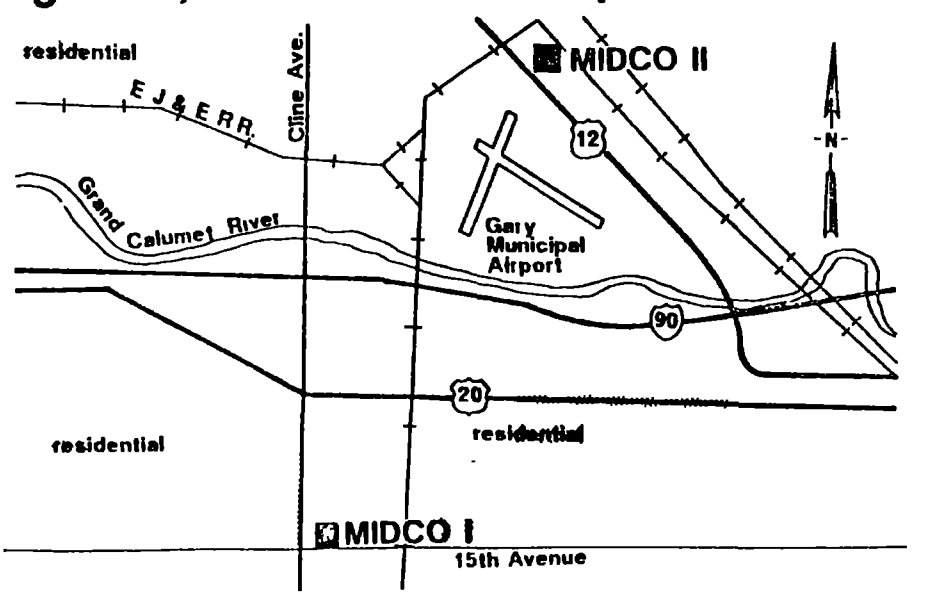
U.S. EPA initiated the Remedial Investigation/Feasibility Study (RI/FS) process in 1985. The RI is a long-term study to identify the nature and extent of contamination, and the FS evaluates remedial alternatives for site conditions.

The RI for Midco I and II concluded that the two sites are contaminated with a variety of compounds in soil and ground water, *including* volatile organic compounds, (VOCs), semi-volatile organic compounds, cyanides, polychlorinated biphenyls (PCBs), *and metals. These contaminants are discussed on page 8 of this fact sheet.*

The two FS reports were completed in February 1989. The FSs presented several alternatives in which to clean up the two sites. This fact sheet describes each alternative, and identifies the U.S. EPA preferred alternatives. IDEM has participated in review of the FSs.

This fact sheet also provides (on page 9) information on how the public can review the RI/FS reports and respond to the U.S. EPA-preferred alternatives. Words that appear in bold type *are explained in the glossary on page 11.*

Figure 1, Site Location Map



Midco I site background

Midwest Solvent Recovery (Midco I) began industrial waste recycling, storage, and disposal at 7400 West 15th Avenue, Gary, Indiana, sometime prior to June 1973.

Midco I waste handling methods included storage in bulk tanks, stockpiling of 55-gallon drums, and disposal of waste into pits. Indiana State Board of Health (ISBH) representatives noted in June 1973 that 4,000 to 5,000 drums were stockpiled, and in November 1973 the estimate increased to 6,000 to 7,000 drums.

A fire occurred at Midco I on December 21, 1976. An estimated 14,000 drums of chemical waste burned in the fire causing emission toxic fumes. After the fire, Midco I operations relocated to 5900 Industrial Highway, Gary, Indiana, and operated as the Midwest Industrial Waste Disposal Company, Inc. (Midco II). Active operations were renewed at the Midco I site in October 1977 and continued until 1979 by Industrial Tectonics, Inc.

By late January 1980, an estimated 14,000 drums were stockpiled, and thousands of fire-damaged drums still remained on the ground. From 1978 to 1981, the U.S. EPA and ISBH conducted inspections and soil and waste samplings at the site.

U.S. EPA installs fence

In June 1981, the U.S. EPA enclosed the Midco I site with a fence. That same month, severe flooding caused water in the area to drain into a neighborhood of the City of Hammond. Contact with this flood water reportedly caused skin burns which many believe were due to drainage from Midco I and the Ninth Avenue Dump, located north of Midco I.

At that time, U.S. EPA initiated a hydrogeologic study to provide a preliminary indication of contaminants present in the soil and ground water, determine ground water flow, and define the extent of contamination related to both the Midco I and II sites.

From February to July 1982, U.S. EPA removed and disposed of hazardous wastes from the Midco I site and excavated the top one-foot of contaminated soil. The surface contamination had been removed, however, additional contaminated soil and ground water remained to be remedied. In December 1982, Midco I was placed on U.S. EPA's National Priorities List (NPL).

Midco II site background

The Midco II site is located north of the Gary Airport in a

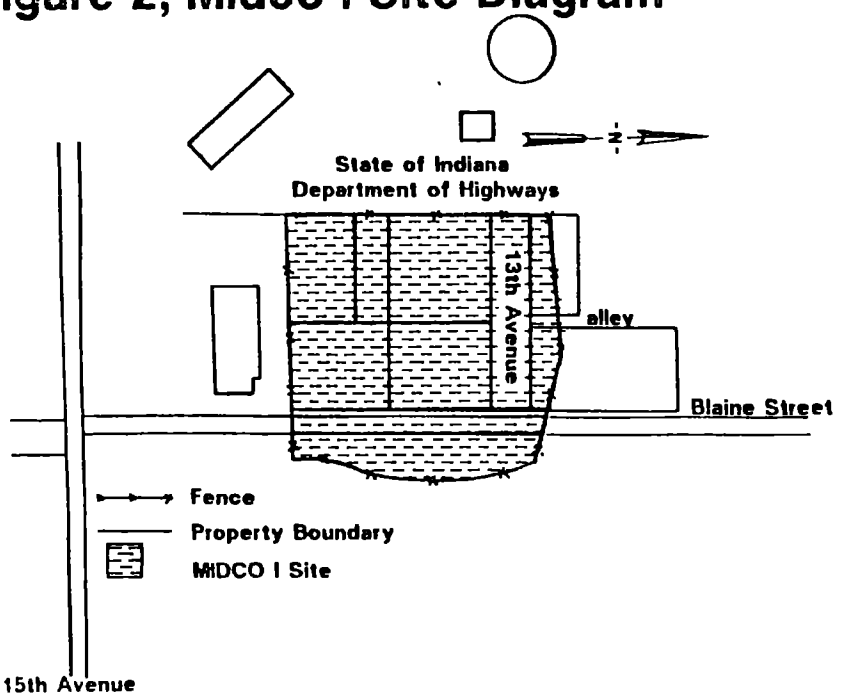
Feasibility Studies present possible technologies,

With the findings of the RI, the FS reports present a list of all possible technologies that might be applicable to control and/or removal of the contamination at the Midco I and II sites. U.S. EPA viewed in detail 14 alternatives. Each alternative was evaluated according to the following nine criteria:

1. Provide overall protection of public health and the environment;
2. Comply with other environmental requirements;
3. Maintain long-term effectiveness and permanence;
4. Reduce toxicity, mobility, or volume of the contamination;
5. Ensure short-term effectiveness to protect public health and the environment during construction and implementation phases;
6. Obtain acceptance of the U.S. EPA preferred alternative(s) from the State;
7. Assess community acceptance of the U.S. EPA preferred alternative(s).
8. Implementability. This refers to the technical and administrative feasibility of a remedy, including the availability of goods and services needed to implement the chosen alternative.
9. Cost. This includes capital expense and operation and maintenance costs.

The alternatives are briefly summarized on pages 3 through 6 of this fact sheet. The numerical identification corresponds to both Midco I and II and their respective FS report. Also included in this section is a comparison chart that presents the relative costs and implementation times for the alternatives, plus U.S. EPA's major concerns regarding the effectiveness and implementation of each option.

Figure 2, Midco I Site Diagram



predominately industrial area, where 34 other potentially hazardous waste sites have been identified.

Midco II operations began in January 1977 and included temporary bulk liquid and drum storage of waste and reclaimable materials, neutralization of acids and caustics, and on-site dumping of waste. By April 1977, approximately 12,000 to 15,000 55-gallon drums of waste materials were stored on site.

Also present were waste-saturated soils caused by leaking drums and spillage, open drums of waste materials, an open dump consisting mainly of drums, tires, and various wood wastes, and an excavated pit containing sludges.

On August 15, 1977, a fire at Midco II destroyed equipment, buildings, and an estimated 50,000 to 60,000 drums, including 100 to 150 drums of cyanide stored in a building.

In August 1979, U.S. EPA collected samples from a paint tank, eight barrels, and the drainage ditch. In February 1981, U.S. EPA investigated the site to evaluate the possible presence of an immediate hazard to public health or the environment In response to site conditions, U.S. EPA installed a ten-foot high fence around the site. The fence was completed in August 1981.

U.S. EPA funded a hydrogeologic study of the site during 1981 to 1983.

From 1984 to 1986, U.S. EPA conducted removal activities. These activities included fence repair and extension; sampling and removal of drums, tanks, and debris; and removal of the sludge pit and filter bed contents. Midco II was placed on the NPL in October 1984.

Midco I and II

U.S. EPA completed Work Plans for the RI/FS for Midco I and II sites in February 1985. An RI focuses on collecting data and characterizing the site in order to assess threats or potential threats to public health and the environment posed by the sites. An FS evaluates several remedial alternatives using environmental, engineering, and economic factors in accordance with federal laws and guidelines.

In April 1985, U.S. EPA agreed to discontinue its work on the RI/FS when a group of companies, which are potentially liable for damages due to the sites' contamination, offered to conduct the RI/FS in accordance with the U.S. EPA-approved Work Plan.

The group of companies resumed the RI/FS process in May 1985 with the U.S. EPA and IDEM monitoring their activities. U.S. EPA approved the RI report of Midco I in December 1987 and Midco II in March 1988. Midco I and II FS reports were approved by U.S. EPA in February 1989.

evaluate 14 potential remedial alternatives

Alternative 1: No action

By law, U.S. EPA is required to consider the no-action alternative. Under this option no action of any kind would take place. All soils, sediments, ground water and surface water would remain in their present condition. Site access would not be restricted, and no further monitoring would be conducted.

Alternative 2: Cap

A cap is constructed of layers of soil and clay and synthetic liners that will cover the entire site. The multi-layer cap would comply with federal requirements under the **Resource Conservation and Recovery Act (RCRA).** A RCRA cap would significantly minimize water from passing through the cover and reaching the contaminated soil, and transporting contamination to the ground water.

As shown in Figure 4, the RCRA cap is constructed upward from the waste. A two-foot clay liner is placed on top of the contamination This special compacted, composite soil liner serves as a backup measure by providing a second layer of an impermeable substance. Above the clay liner is the first impermeable layer which is a synthetic (plastic) liner.

A one-foot layer of sand is placed on top of the synthetic liner. This is the drainage layer that permits water to drain away from the contamination. A filter fabric on top of the sand layer inhibits fine particles in the vegetation and top soil layers from moving into the drainage layer and clogging the drainage system.

The vegetation cover and top soil provides erosion control and

Figure 3, Midco II Site Diagram

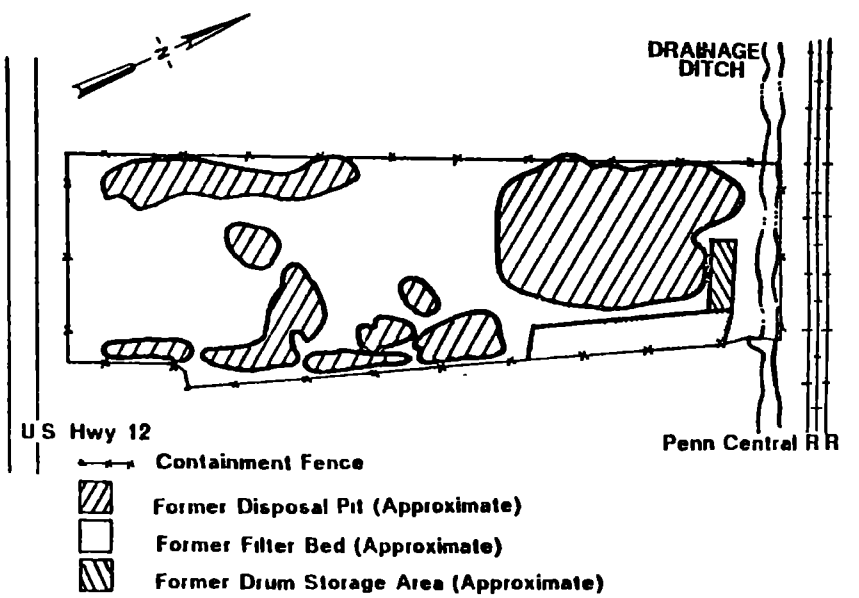
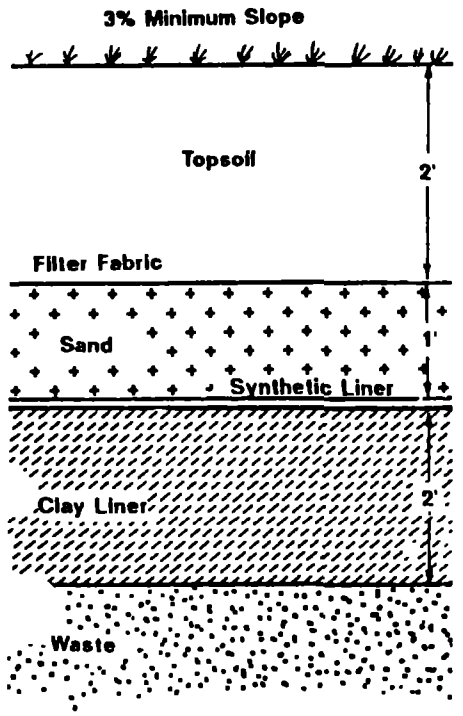


Figure 4, RCRA Cap



frost protection.

At Midco I ground water usage 'rictions would be required over arge area, and 19 residential well users would be connected to the municipal water system.

Midco II ground water-usage restrictions would be required on 'he Gary Airport property and operty east of the site. Wells on the Gary Airport property would e connected to the municipal r system.

r both Midco I and II: main- nce of a fence around the site, site access restrictions, and ground water monitoring wells are included in this and all of the following alternatives.

Alternative 3: Containment

A clay slurry wall would be constructed around the site to contain the contaminated ground water. A slurry wall (Figure 5) is an underground wall made of low permeable material and surrounds the contaminated area. The slurry wall would be placed down into a w permeable, confining layer, sually clay. This layer would form the bottom of the contained area.

As in Alternative 2, a multi-layer cap would be installed over the Midco I and II sites to fully encapsulate the contamination.

Midco I slurry walls will be 30-feet deep to reach the underground, confining layer. The slurry walls will be 36 inches wide with a length of 2,050 feet.

Midco II slurry walls will be 48-feet deep to reach the low permeable, confining layer. The slurry walls will be 36 inches wide with a length of 2,900 feet.

Remedies that directly address ground water

Alternative 4A: Ground Water Pumping and Deep Well Injection

This alternative involves installation of wells that will extract and bring to the surface the contaminated ground water. The untreated contaminated ground water is then injected into an on-site deep underground well (Figure 6).

Deep well injection technology provides the means to place contaminated water into zones far below fresh water aquifers (Figure 7, page 7). Such disposal is to a deep unusable (usually salt water) aquifer that is isolated from fresh-water sources.

It is important that the design and operations of this alternative prohibit leakage that could endanger usable fresh-water supplies. Therefore, a Petition Demonstration will be required to show that the injected hazardous wastes would stay inside the injection zone (unusable aquifer) for the required length of time (10,000 years) or that the contamination would be rendered nonhazardous before leaving the injection zone.

Additional safeguards are included in the basic design of deep well injection systems. The well casings are sealed during installation to prevent upward migration of fluids. The injection fluid in the deep well is surrounded by a fluid in the annulus and is kept under pressure and used to detect leaks in the injection fluid. Automatic shutoff systems are also installed. Testing of the mechanical system and well casing materials is conducted on a regular basis

Seven and four extraction wells will be installed at Midco I and Midco II, respectively. For each site, one deep injection well will be installed 2,250 feet below the surface in the briny (saturated with salt) Mount Simon aquifer. Alternatively, a single well could be installed on one of the sites for use by both Midco sites. The Mount Simon aquifer is currently being used for hazardous waste disposal in Lake County, Indiana.

Contaminated surface soil and sediment will be excavated, transported, and disposed of in a

Figure 5, Slurry Wall

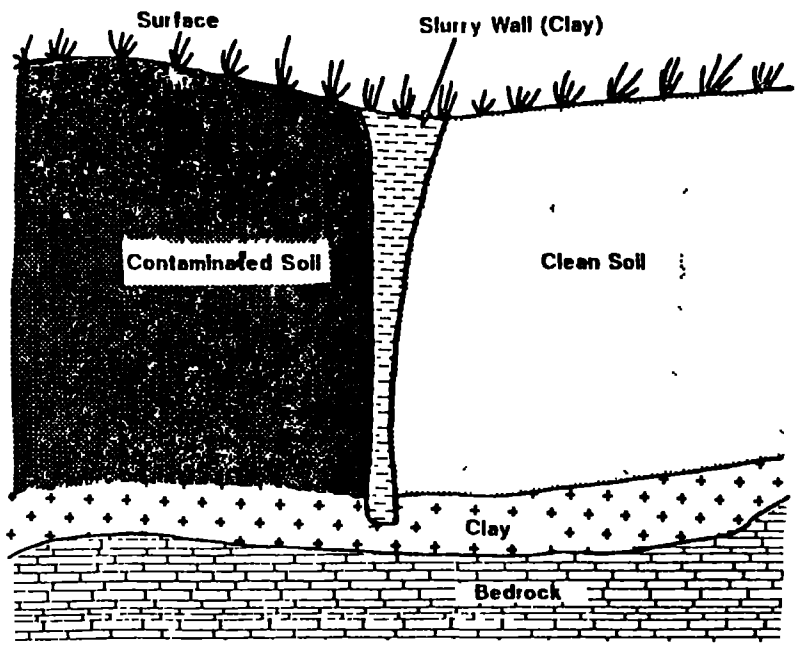
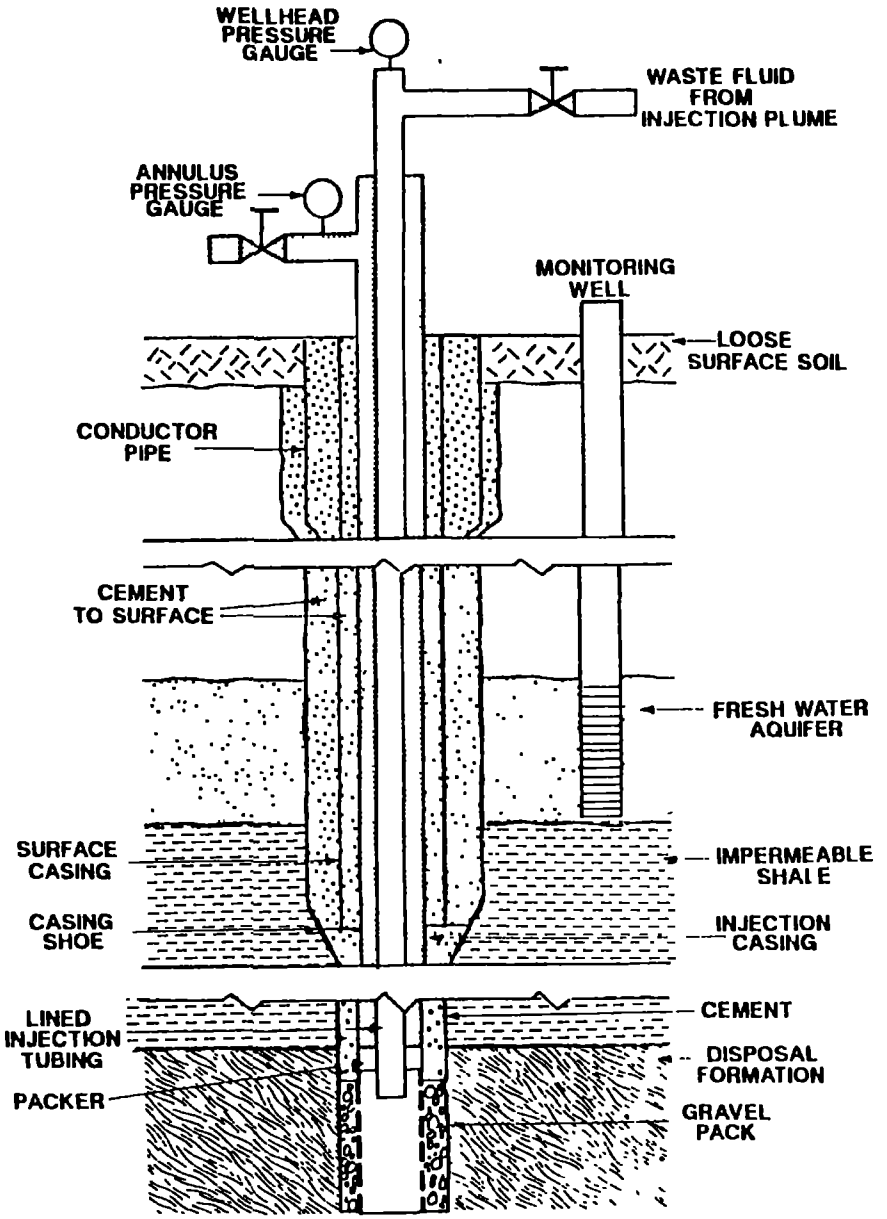


Figure 6, Deep Injection Well



landfill. A RCRA-compliance cap will be placed over the sites

Alternative 4C: Ground Water Pumping, Treatment and Deep Well Injection

This alternative could be the same as Alternative 4A except that the contaminated ground water would be treated before disposal in a deep injection well. The degree of treatment would depend on the applicable requirements at the time of the operation.

Disposal in a deep injection well is necessary even after removing hazardous substances because the water would be too salty to discharge to surface waters or to the shallow ground water without potentially harming the environment. The treatment system residues would have to be disposed of in a landfill, incinerated, or recycled off site.

Alternative 4E: Ground Water Pumping and Evaporation

In this alternative, extraction wells would be installed to intercept contaminated ground water and bring it to the surface for evaporation. Evaporation is the natural occurrence of water changing from a liquid to a gas.

The end product of an extensive evaporation system would be dry solids (salt cake) and a highly concentrated liquid of contaminants, referred to as blow down. The salt cake would be transported to a landfill, and the blow down incinerated.

Remedies that directly address the source

Alternative 5A: Soil Vapor Extraction, Excavation and Landfill Disposal

At Midco I excavation of the soil will produce VOCs in quantities that may cause health risks to off-site residents. Therefore, soil vapor extraction would be performed prior to the excavation to reduce VOCs to below acceptable levels.

Soil vapor extraction technology involves vacuum extraction wells and sometimes air injection wells to collect the VOCs. The collected VOCs would then be destroyed in an incinerator.

Subsequently, the contaminated soil would be excavated above the water table and transported off site for disposal in a hazardous waste landfill. This alternative and the other Midco I alternatives that only address the source (Alternatives 5A-5G) would require ground water usage restriction over a large area in the City of Gary, and connection of 19 residential well users to the municipal water system.

At Midco II, excavation of the soil will not produce VOCs that would cause significant health risks to off-site residents. Therefore, soil vapor extraction is not needed prior to excavation. Contaminated soil would be excavated above the water table and transported off-site for disposal in a hazardous waste landfill.

This alternative and the other Midco II alternatives that only directly address the source (Alternatives 5A-5G) would require ground water usage restrictions, and connection of two wells on the Gary Airport property to the municipal water system.

Alternative 5C: Soil Vapor Extraction, Incineration and Ash Solidification

As in Alternative 5A at Midco I, soil vapor extraction would reduce VOCs to below acceptable levels prior to excavation. Subsequently, soil would be excavated above the water table and incinerated to

destroy the remaining organic compounds in the soil.

Solidification of the ash would necessary following incineration nmobilize metals (chromium, copper, and lead) in the soil. Solidification is the process of binding, in this case, the ash with a substance to form a hard or compact material that will reduce the mobility of a hazardous component remaining in the ash.

At Midco II, soil would be excavated above the water table and incinerated to destroy organic compounds in the soil. Solidification of the ash would be necessary following incineration to immobilize metals (arsenic, cadmium, and lead) in the soil.

.ernative 5E: Soil Vapor Extraction and Solidification

As in Alternatives 5A and 5C at Midco I site, soil vapor extrac- would be performed.

.t both Midco I and II sites, soil would be excavated above the water table, mixed with stabilizing and solidifying agents and placed back on site. Mixing may also take place in situ. The mobility of hazardous components is reduced through binding or entrapment in a solid mass with low permeability that resists leaching.

Alternative 5G: In situ Vitrification

This alternative involves insertion of electrodes into the contaminated soil and heating it to fuse the soil into vitrified (glass-like) blocks. Emissions would be controlled during this process. In situ vitrification has been proven in pilot tests, however, not in a full-scale commercial project involving hazardous wastes.

Remedies that directly address source and ground water

Alternative 6: (3 and 5E)

This alternative combines Alternative 3: Containment (page 4) with source Alternative 5E: Soil Vapor Extraction and Solidification (page 5).

Alternative 7: (4A and 5E)

This alternative combines ground water Alternative 4A: Ground Water Pumping and Deep Well Injection (page 4) with source Alternative 5E: Soil Vapor Extraction and Solidification (page 5).

Alternative 8: (4C and 5E)

This alternative combines ground water Alternative 4C: Ground Water Pumping, Treatment and Deep Well Injection (page 4) with source Alternative 5E: Soil Vapor Extraction and Solidification (page 5).

Alternative 9: (4E and 5E)

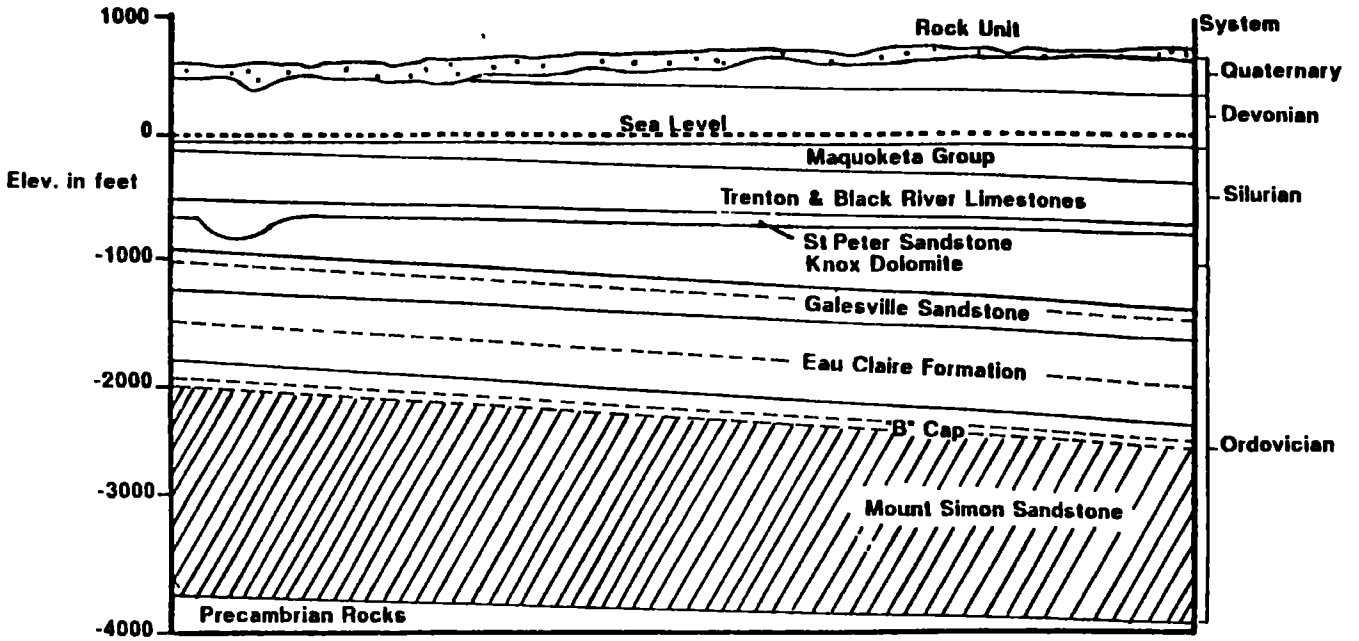
This alternative combines ground water Alternative 4E: Ground Water Pumping and Evaporation (page 4) with source Alternative 5E: Soil Vapor Extraction and Solidification (page 5).

Comparison of Remedial Alternativ

	Will contaminants migrate off site in ground water?		Will action result in noncompliance with state or federal standards?		Will contaminants of potential health concern remain in the soil or ground water?		Will a significant amount of off-site hazardous waste disposal occur?		Are significant implementation problems expected?		Present worth in millions of dollars		Capital cost millions of d lars	
	Midco I	Midco II	Midco I	Midco II	Midco I	Midco II	Midco I	Midco II	Midco I	Midco II	Midco I	Midco II	Midco I	Mi
1. No Action	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes 5	Yes 5	---	---	---	-
2. Cap	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes 5, 8	Yes 5	3.4	4.8	2.0	2
3. Containment	No	No	No	No	Yes	Yes	No	No	No 6	No 6	4.7	7.9	3.2	5
Remedies that directly address ground water														
4A. Deep Well	No	No	No	No	Yes	Yes	No 1	No 1	No 7	No 7	5.5	6.9	3.8	4
4C. Treat and Deep Well	No	No	No	No	Yes	Yes	No 2	No 2	No	No	8.8	11.1	3.9	4
4E. Evaporation	No	No	No	No	Yes	Yes	Yes 3	Yes 3	No	No	6.5	12.8	2.3	3
Remedies that directly address source														
5A. Landfill*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes 8	No	9.7	17.5	8.3	15
5C. Incineration*	Yes	Yes	Yes	Yes	Yes	Yes	No 4	No	Yes 8	No	13.6	26.0	12.2	23
5E. Solidification*	Yes	Yes	Yes	Yes	Yes	Yes	No 4	No	Yes 8	No	7.6	11.3	6.2	9
5G. Vitrification	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes 8,9	Yes 9	10.2	20.6	8.9	18
Remedies that directly address both source and ground water														
6. (3 and 5E)*	No	No	No	No	Yes	Yes	No 4	No	No	No 6	10.2	16.3	8.7	14
7. (4A and 5E)*	No	No	No	No	No	No	No 1,4	No 1	No 7	No 7	10.7	14.9	9.0	12
8. (4C and 5E)*	No	No	No	No	No	No	No 2,4	No 2	No	No	14.0	19.1	9.1	12
9. (4E and 5E)*	No	No	No	No	No	No	Yes 3,4	Yes 3	No	No	11.8	21.0	7.5	11

* Excavation for these alternatives is preceded by soil vapor extraction for Midco I
1 Hazardous waste disposal in deep aquifer
2 Small amounts of metals and carbon may be disposed of in a landfill
3 Salt cake contaminated with metals, cyanide and some organic compounds will be landfilled
4 Small amounts of liquids from in situ vapor extraction will be incinerated
5 Approval under Superfund is unlikely
6 The long-term effectiveness of the slurry wall is uncertain.
7 May be problems obtaining approval for deep well injection

Figure 7, Lake County Geology



	nnual operations and maintenance cost in millions of dollars		Years to design and construct	
	Midco I	Midco II	Midco I	Midco II
	---	---	0	0
	0.15	0.23	2	2
	0.16	0.23	3	3
	0.19	0.30	4	4
	0.53	0.73	3	3
	0.45	1.00	3	3
	0.15	0.23	2	2
	0.15	0.23	4	4
	0.15	0.23	2	2
	0.15	0.23	3	3
	0.16	0.23	3	3
	0.19	0.30	4	4
	0.53	0.73	4	4
	0.45	1.04	4	4

ound water usage restrictions difficult to implement

Procedures are not proved in a full-scale commercial project High water table may cause difficulties during construction

U.S. EPA combines alternatives to serve as preferred remedy

To select the alternative(s) that best remedies the contamination at the sites, U.S. EPA conducted its review of the alternatives according to the nine criteria listed on page 2.

Based on the initial review of each alternative and the nine criteria, U.S. EPA prefers Alternatives 7 or 8, options which address both the ground water and source contamination. Alternative 7 combines Ground Water Pumping and Deep Well Injection (4A, page 4) with Soil Vapor Extraction and Solidification (5A, page 5). Midco II requires only solidification with Alternative 5A.

Alternative 8 combines Ground Water Pumping, Treatment and Deep Well Injection (4C, page 4) with Soil Vapor Extraction and Solidification (5E, page 5). After completion of these options, both Midco I and II sites should be acceptable for limited development and permanently address health concerns.

The extent of treatment of the contaminated ground water prior to deep well injection will be determined by U.S. EPA. If a Petition Demonstration is approved, deep underground injection without treatment would be permissible. If a Petition Demonstration is not approved and land ban regulations are in effect, treatment for removal of VOCs and cyanide may be required. If hazardous waste disposal in deep injection wells is disallowed, the ground water would have to be treated to make it non-hazardous prior to injection.

The ground water treatment system will be operated until clean-up action levels are reached in the aquifer below the site. These action levels are based on drinking water standards, detection limits, background concentrations, and public health risk calculations.

A soil vapor extraction system should remove and destroy a predominant amount of the VOCs. Solidification processes have been used for a number of years to improve the handling of wastes and to reduce the mobility of hazardous components. This option has been selected at a number of U.S. EPA Superfund sites.

Solidification in combination with soil vapor extraction should address all contaminants of concern in the soil, however, the procedure is considered innovative for the

large mix of contaminants at Midco I and II. Tests will be conducted to determine the effectiveness of solidification to select the right amounts of the proper additives prior to solidifying.

If expansion of the Gary Airport occurs, remedial actions at Midco II may be adjusted to be consistent with this expansion.

The next step

U.S. EPA and IDEM will evaluate any public comments received and choose a final remedy. Please turn to page 10 in this fact sheet for opportunities for public involvement. Following public comment, U.S. EPA will identify the final remedy in a document called a **Record of Decision (ROD).**

RI reports estimate health, environmental risks

Introduction

It is required by law to include in the RI the estimates of risk in the decision making process for cleanup of contaminated sites. An **endangerment assessment** evaluates the demographic (population), geographic, physical, chemical, and biological factors at a site to determine if there is a risk to public health or the environment.

This process can be used to evaluate the current risk as well as the risk that might be associated with future actions or potential remedial measures.

This fact sheet section identifies the primary chemicals of concern to the U.S. EPA, describes the chemicals in general terms, and summarizes the risk to public health and the environment if no action is taken at Midco I and II.

RI results for Midco I

The RI showed that on-site subsurface soils are contaminated by a large number of chemicals and contain some crushed drums and other debris. Ground water below the site is also contaminated, but the contaminated ground water does not extend very far from the site. The ground water is also highly saline possibly due to run-off from the adjacent Indiana Department of Highways facility (See Figure 2).

The primary chemicals contributing to soil and ground water contamination at Midco I are listed below. The asterick (*) indicates the chemicals considered a cancer risk.

VOCs
- acetone
- benzene*
- 2-butanone
- chloroform
- methylene chloride*
- 4-methyl-2 pentanone
- tetrachloroethene*
- toluene
- trichloroethene*
- vinyl chloride*

semi-volatile organic compounds
- benzo(a)pyrene*
- bis 2-ethythexyl phthalate*
- phenol

metals
- arsenic*
- chromium
- lead
- nickel

PCBs*

cyanide

dieldrin*

RI results for Midco II

The RI showed that on-site subsurface soils are also contaminated by a large number of chemicals. Ground water below the site is contaminated but the contamination does not extend very far from the site. Some surface sediments in the ditch north of the site are also contaminated. The ground water is also highly saline especially the lower part of the aquifer. The high salinity is believed due to leaching from aluminum smelting wastes that were used for fill on the Midco II site as well as on adjacent properties. This filling occurred prior to the Midco operations.

The primary chemicals contributing to site contamination at Midco II are listed below. The asterick (*) indicates the chemicals considered a cancer risk.

VOCs
- acetone
- 2-butanone
- 1,1 dichloroethane*
- ethylbenzene
- 4-methyl-2-pentanone
- methylene chloride*
- tetrachloroethene*
- toluene
- trichloroethylene*
- xylenes

semi-volatile organic compounds
- isophorone*

metals
- arsenic*
- copper
- selenium

PCBs*

cyanide

VOCs

VOCs and semi-volatile organic compounds are a group of organic compounds characterized by their greater tendency to evaporate when exposed to air. Because of this tendency to evaporate, VOCs disappear more readily from surface water and soil than ground water and subsurface soil.

VOCs are primarily used in solvents. Solvents are substances capable of dissolving another substance to form a solution. The chief uses of industrial solvents are as cleaners, degreasing agents, and in paints.

Metals

The term metal refers to roughly three-quarters of the earth's elements. Some well-known metals are gold, silver, and copper. Characteristics of metals include a crystalline structure when solid, and when broken produces a luster. Generally, metals are good conductors of heat, electricity, and sound.

Metals are capable of being molded or shaped, such as wire. Many metals are quite hard and have physical strength. It is common for metals to be combined with other metals to form specific alloys. For example, gold is too soft to use without a small percentage of copper. Metals contain varying degrees of toxicity.

PCBs

Polychlorinated biphenyls (PCBs)

are a family of organic compounds which posses the following properties: thermal (heat) stability; resistance to chemicals; and excellent electrical insulation characteristics. PCBs do not readily mix with water.

PCB oils have been used in the manufacturing of lubricants, carbonless paper, adhesives, and caulking compounds. Since PCBs are long lasting, nonflammable, nonexplosive and possess electrical insulation characteristics, they were widely used in transformers, capacitors, hydraulic equipment, compressors, vacuum pumps, and as placticizers (surface coating and sealants).

In the environment, PCBs are persistent (i.e., they do not break down into new and less complex chemicals) and tend to bioaccumulate in the food chain. Through the bioaccumulation process, PCBs are concentrated in the fatty tissues of humans, animals, and fish.

PCBs are not as toxic in acute short-term doses as some other chemicals, although exposure for a long period of time can cause liver damage and chloracne, an acne-form skin eruption. PCBs have also caused cancer in laboratory animals.

Dieldrin

Dieldrin is a generic name for an insecticide product. Its use is restricted to nonagricultural applications.

Midco I risk assessment

A risk assessment was completed as part of the RI. A risk assessment is an extensive evaluation performed to define the risk posed to public health and the environment by the presence or potential presence and use of specific pollutants. The Midco I risk assessment showed that future usage of the site without remediation may cause a high cancer and toxic risk due to usage of the ground water and exposure to on-site soils.

In general, humans may absorb chemicals through three routes of exposure: dermal (skin, touching), ingestion (eating), and inhalation (breathing) If one is exposed, an adverse health affect, if any, depends on several important points: length of time of exposure, amount of contaminant exposed to, number of times or frequency of exposure, and health condition of the individual exposed to the substance.

If no action is taken at Midco I, contaminated ground water will continue to migrate off-site and would result in contamination of a large portion of the shallow aquifer within the City of Gary This would affect up to 19 residential wells that are currently used for drinking. However, since the ground water flow rate is slow, it would take many years for this to occur. The migration of contaminants from the site will also contribute contamination of the wetlands north of the site.

In addition, if no action is taken, a slightly increased cancer risk to the nearest residents may result primarily due to volatilization of benzene from contaminated ground water. Soils north of the site may also cause an increased cancer risk to individuals who may frequent or play in that area.

Concurrent with the Midco I RI/FS, the U.S. Fish and Wildlife Service conducted a study to evaluate the effect of the Midco I operations on nearby plants and animals. The report will be released for public review when it is completed.

Midco II risk assessment

The Midco II risk assessment also showed that future usage of the site without remediation may cause a high cancer and toxic risk due to usage of the ground water and exposure to on-site soils.

If no action is taken, contaminated ground water will continue to migrate off-site. However, no residential wells would be affected by ground water migration from the site. The migration of contaminants from the site will also contribute to contamination of water in the ditch north of the site. This ditch flows into the Grand Calumet River. Contaminants in the sediments in the ditch may also eventually reach the Grand Calumet River.

If no action is taken a slightly increased cancer risk to the nearest residents may result primarily due to arsenic and trichloroethylene in the the ground water, recharging the ditch, and then casual contact with the contaminated water in the ditch.

The U.S. Fish and Wildlife Service also conducted a study to evaluate the effect of the Midco II operations on nearby plants and animals. The report will be released for public review when it is completed.

Opportunities for public involvement

Public meeting

Members of the community are invited to attend an U.S. EPA-sponsored public meeting to discuss the Feasibility Study reports, present the Proposed Plans, and address any questions. The public meeting will be:

April 27, 1989

7:00 P.M.

Morton High School
Small Auditorium
6915 Grand Avenue
Hammond, Indiana

Public comment period

Comments from the public are considered by the U.S. EPA to select final remedial actions for Midco I and Midco II. Interested individuals are welcome to present comments on the Feasibility Study and U.S. EPA's Proposed Plan during the public meeting, or submit comments in writing. Therefore, U S EPA has established an official public comment period from April 20 to May 19, 1989. Written comments postmarked no later than May 19, 1989, should be sent to:

Arthur Gasior, 5PA-14
Community Relations Coordinator
Office of Public Affairs
U.S. EPA - Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Information Repositories

Documents relating to U.S EPA activities at the Midco I and Midco II sites are organized and presented in the Information Repository. An

Information Repository is a file that contains accurate, up-to-date documents on U.S. EPA Superfund sites.

The public is invited to review copies of the Remedial Investigation and Feasibility Study reports as well as other available site information.

Two locations have been established to hold both Midco I and Midco II information:

Gary City Hall
Public Information Office
Second Floor
401 Broadway
Gary, Indiana

Gibson Woods Nature Preserve
Environment Awareness Center
6201 Parish Avenue
Hammond, Indiana

Additional information

For additional information please contact:

Arthur Gasior
Community Relations Coordinator

Phone: (312) 886-6128

Toll Free: 1-800-621-8431
(9:00 A.M. to 4:30 P.M. Central Time)

For technical information please contact:

Rich Boice, 5HS-11
Remedial Project Manager
Remedial and Enforcement Response Branch
U.S. EPA - Region 5
230 South Dearborn Street
Chicago, Illinois

Phone: (312) 886-4740

Selecting a clean-up remedy

U.S. EPA uses nine criteria, or standards, to evaluate alternatives for cleaning up a hazardous waste site. The remedy ultimately selected for a site must meet all nine criteria. The nine criteria are described below.

1. Protection of Public Health and the Environment

This criterion addresses the way in which a potential remedy would reduce, eliminate or control the risks to public health and the environment posed by the site. The methods used to achieve an adequate level of protection may be through engineering controls, treatment techniques, or other controls, such as restrictions on the future use of the site. Total elimination of risk is often impossible to achieve, however, a remedy must minimize the risk to protect public health and the environment.

2. Compliance with ARARs

Compliance with ARARs, or "applicable or relevant and appropriate laws and regulations" assure that a selected remedy will meet all related federal, state and/or local requirements. The requirements may specify maximum concentrations of chemicals which can remain at a site; design or acceptable performance requirements for treatment technologies, and siting restrictions which may limit potential activities at a site.

3. Long-term Effectiveness or Permanence

This criterion refers to the ability of potential clean-up alternatives to maintain the protection of public health and the environment over time.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants

This criterion assesses how effectively a proposed remedy will address the contamination problem. Factors considered include the nature of the treatment process implemented; the amount of hazardous materials that will be destroyed by the treatment process; the percentage of reduction of toxicity, mobility, or volume of waste; and the type and quantity of residual contamination that will remain after treatment.

5. Short-term Effectiveness

This criterion also addresses the time factor. Clean-up technologies often require several years for implementation. A remedial alternative is evaluated for the length of time required and the potential impact on public health and the environment during clean-up activities.

6. Implementability

Implementability addresses the ease with which a potential remedy can be accomplished. The availability of materials and services are also considered.

7. Cost

Capital costs required for design and construction, and long-term operations and maintenance costs are computed and projected into the future.

8. State Acceptance

The state has an opportunity to review the Feasibility Study and Proposed Plan and submit comments to the U.S. EPA.

9. Community Acceptance

During the public comment period, individuals and organizations may comment on the remedial alternatives. U.S. EPA considers these comments in making its final clean-up selection. U.S. EPA responds to the comments in a document called a Responsiveness Summary, which is a section of the site's Record of Decision.

Midco I and Midco II glossary

Annulus-A ringlike part, band, space.

Aquifer-A particular zone or layer of rock or soil below the ground surface that is capable of yielding usable quantities of ground water.

Bioaccumulate-Refers to the process for chemicals that are persistent in the environment and do not dissolve, disperse, or degrade. Such chemicals may enter the food chain and eventually reach human consumption.

Bioaccumulation is the collection of such chemicals in fish, animals, and even human beings. For example, certain chemicals that enter the rivers or lakes will cling to plant life, sediment, and particles in the water.

Aquatic insects and crustaceans eat the contaminated plants and/or absorb the contaminated water. Small fish eat the insects and crustaceans which, in turn, are eaten by larger fish. Ultimately, people catch and eat the fish containing the chemical.

The chemical accumulates and increases in concentration with each step in the food chain. The chemicals that bioaccumulate collect in the fatty tissue and organs in humans are are not disposed of with normal body wastes.

Cyanide-A poison that asphyxiates the cells in the body. It is primarily used in the extraction of es, in electroplating, and in metal treatments. It is also used in fumigation and in the manufacturing of pharmaceuticals.

Endangerment assessment-A site-specific study of the actual or potential danger to public health or the environment posed by the release of contaminants from a Superfund site.

Ground water-Underground water that fills pores in soils or openings in rocks to the point of saturation.

Hydrogeologic study-An investigation of the nature and distribution of aquifers in a geologic system. A hydrogeologic study includes identifying the direction and rate of ground water flow within the aquifers; determining the natural and chemical characteristics of ground water and geological structures below ground surface; and studying the relationship between the various rock and soil layers in the area.

Impermeable-Not permitting passage, as of a fluid, through a substance.

In situ-Situated in the original, natural, or existing place or position.

Land ban-Restrictions on disposing hazardous waste on land under the Resource Conservation and Recovery Act

Leaching-Migration of extracted or dissolved foreign substances into adjacent ground water.

Monitoring wells-Wells installed at specific locations for sampling at various depths. Analysis of samples determine contamination and the direction and extent of contamination movement.

National Priorities List (NPL)-U.S. EPA's list of the most serious hazardous waste sites identified for long-term remedial action under Superfund.

Organic compound-This term is used to designate chemicals and substances that contain carbon. To date nearly one million organic compounds have been synthesized or isolated. Many organic compounds are produced by chemical synthesis. Carbon is the active element in photosynthesis and thus occurs in all plant and animal life.

Polychlorinated biphenyl (PCB)-PCBs are a family of organic compounds used since 1926 in electric transformers as insulators and coolants, in lubricants, carbonless copy paper, adhesives, and caulking compounds. They are also produced in certain combustion processes.

In October 1976, through the Toxic Substances Control Act, Congress directed U.S. EPA to regulate PCBs. This was the only chemical substance specifically named in the Act because Congress believed that its chemical and toxic properties and its widespread use posed significant risks to public health and the environment.

Mailing list additions--

To be placed on the mailing list to receive information regarding the Midco I and Midco II sites, please complete and mail this form to:

Arthur Gasior, 5PA-14
ommunity Relations Coordinator
Office of Public Affairs
U.S. EPA - Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Midco I and Midco II Sites, Gary, Indiana

Please place my name on the mailing list.

NAME:_____

ADDRESS:_____

CITY, STATE, ZIP:_____

AFFILIATION:_____

TELEPHONE: (_____)_____

U.S. EPA issued regulations for the proper disposal of PCBs and their manufacture, distribution, and use in other than a totally closed manner.

On February 17, 1978, U.S. EPA announced the PCBs Marking and Disposal Rule, establishing specific requirements for the identification and disposal of PCBs according to the nature and concentration of the PCBs in question. On May 31, 1979, U.S. EPA issued regulations prohibiting and restricting their continued use.

Present worth-An economic term describing today's cost of a Superfund cleanup that reflects the discounted value of future costs.

Remedial-A long-term action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to public health.

Removal-Short-term immediate actions taken to address releases of hazardous substances that require expedited responses.

Resource Conservation and Recovery Act (RCRA)-A federal law regulating the production, transportation, and disposal of hazardous wastes.

Sediment-Materials that settle to the bottom of a stream, creek, lake, or other body of water.

Superfund-Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; known as Superfund) in 1980, to respond directly to hazardous waste problems that may pose a threat to the public and the environment.

The U.S. EPA administers the Superfund program. The U.S. EPA considers a variety of factors to identify either the remedial or removal line of action.

Toxic/Toxicity-The ability of a substance to cause damage to living tissue, impairment of the central nervous system, severe illness or, in extreme cases, death when ingested, inhaled, or absorbed by the skin.

The toxic hazard of a material may depend on its physical state and on its solubility in water and acids. Some metals that are harmless in solid or bulk form are quite toxic as fumes, powder or dust. Many substances that are intensely poisonous are actually beneficial when administered in tiny micro amounts, as in prescription drugs.

Vitrification-Heating process to convert material into glass.

Volatile organic compound (VOC) and semi-volatile organic compounds--A group of organic compounds characterized by their greater tendency to evaporate when exposed to air.

Water table-The level of ground water.

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II SUPERFUND SITES
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RECIPIENT	DOCUMENT TYPE
	Sampling Data

DEPOSITION EXHIBIT

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ADMINISTRATIVE RECORD SAMPLING/DATA - INDEX 04
MIDCO I AND MIDCO II SUPERFUND SITES
DOCUMENTS NOT COPIED. MAY BE REVIEWED AT THE
USEPA REGION V OFFICES, CHICAGO, ILLINOIS.

R.E.B.

	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
90/00/00	Data validation work sheets available at Geosciences Research Associates, Bloomington, Indiana	USEPA		Sampling Data
	Discharge Monitoring Reports from the City of Gary, the City of Hammond, and the City of East Chicago for April, May and June 1989 available Compliance File, Water Division, USEPA, Region V, Chicago, Illinois			

DEPOSITION EXHIBIT

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APPENDIX II

No. 1
3/89

ADMINISTRATIVE RECORD INDEX - UPDATE #2
MIDCO II
GARY, INDIANA

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
	2	89/06/09	Comments on Responsiveness Summary	Frederick Test Weston, Inc.	R.Boice - USEPA	Correspondence	1
	2	89/06/12	Request for information to determine the viability for discharge to the Grand Calumet River	Mary Gade USEPA	C.Bardonner - IDEM	Correspondence	2
	2	89/06/20	Letter to concerned citizen regarding quality of drinking water and potential affect of proposed deep well injection	Richard E. Boice USEPA	D.Williford-Simpson	Correspondence	3
	2	89/06/30	Department of Environmental Management (DEM) Record of Decision (ROD) concurrence letter	Kathy Prosser IDEM	V.Adamkus - USEPA	Correspondence	4
	2	89/08/23	Follow up to comments in the letter of concurrence as well as to answer questions posed in a USEPA letter of June 12, 1989	USEPA	M.Gade - USEPA	Correspondence	5
	4	89/10/23	Letter approving Quality Assurance Project Plan for Soil Solidification Treatability Study contigent upon enclosed revisions	Richard E. Boice USEPA	Dr.R.Millano - ERM	Correspondence	6
	12	89/04/00	Fact Sheet for Midco I & II; includes: site	USEPA		Fact Sheet	7

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MIDCO II 106
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MIDCO II ROD
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ADMINISTRATIVE RECORD INDEX - UPDATE 02
MIDCO II
GARY, INDIANA

E/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
			Elimination System Permit for the Hammond Sanitary District				
	7	87/10/02	Reissued National Pollutant Discharge Elimination System Permit (NPDES) with cover letter for the East Chicago Sanitary District	John L. Winters IDEM	Spratt-E.Chicago San/Dist	Permits	15
	7	87/10/25	National Pollutant Discharge Elimination System for the Gary Sanitary District	John L. Winters IDEM	Gary Sanitary District	Permits	16
	97	00/00/00	A survey for contaminants in Biota near the Midco I, Midco II and Ninth Avenue Dump Hazardous Waste Sites	Donald W. Steffeck Fish and Wildlife Service U.S. Department of the Interior		Reports/Studies	17
	182	89/06/30	Record of Decision (ROD)	USEPA		Reports/Studies	18
	79	89/09/25	Health and Safety Plan Soil Solification Treatability Study Field Sampling for Midco I and II	Environmental Resources Management North Central, Inc.		Reports/Studies	19
	395	89/09/26	Quality Assurance Project Plan for Soil Solidification Treatability Study Midwest Solvent Recovery, Inc. (Midco I), and Midwest Disposal Company, Inc. (Midco II)	Environmental Resources Management North Central, Inc.		Reports/Studies	20