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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

TINA HERFORD and DOUGLAS HERFORD,

Plaintiffs,

vs

Case No. BC646315

AT&T CORP., a subsidiary of AT&T INC.

and its subsidiary PACIFIC BELL

TELEPHONE COMPANY, et al.,

Defendants.

VIDEO DEPOSITION OF DR. JOHN HOPKINS

Day 4

Friday, August 18, 2017

AT: 10:03 am

Taken at:

Shook Hardy & Bacon LLP

25 Old Broad Street

London EC2N 1HQ

United Kingdom

Court Reporter:

DEIRDRA JORDAN

Job No. 2684109

Page 1059 1 SUPERIOR COURT OF NEW JERSEY 2 LAW DIVISION - MIDDLESEX COUNTY 3 4 DAVID CHARLES ETHERIDGE and 5 DARLENE PASTORE ETHERIDGE, 6 Plaintiffs, 7 vs Docket No. 8 MID-L-0932-17 AS 9 BRENNTAG NORTH AMERICA, INC. 10 (sued individually and as 11 successor-in-interest to 12 MINERAL PIGMENT SOLUTIONS, INC. 13 and as successor-in-interest to 14 WHITTAKER CLARK & DANIELS, INC.) 15 et al., 16 17 Defendants. 18 19 20 21 22 23 24 25	Page 1061 1 SUPERIOR COURT OF NEW JERSEY 2 LAW DIVISION - MIDDLESEX COUNTY 3 4 IRMA VERDOLOTTI, 5 Plaintiff, 6 vs Docket No. 7 MID-L-5973-16 AS 8 BRENNTAG NORTH AMERICA, INC. 9 (sued individually and as 10 successor-in-interest to 11 MINERAL PIGMENT SOLUTIONS, INC. 12 and as successor-in-interest to 13 WHITTAKER CLARK & DANIELS, INC.) 14 et al., 15 16 Defendants. 17 18 19 20 21 22 23 24 25
Page 1060 1 SUPERIOR COURT OF NEW JERSEY 2 LAW DIVISION - MIDDLESEX COUNTY 3 4 RONALD MARTIN TEUSCHER and 5 SHANNON TEUSCHER, 6 Plaintiffs, 7 vs Docket No. 8 MID-L-7249-16 AS 9 BRENNTAG NORTH AMERICA, INC. 10 (sued individually and as 11 successor-in-interest to 12 MINERAL PIGMENT SOLUTIONS, INC. 13 and as successor-in-interest to 14 WHITTAKER CLARK & DANIELS, INC.) 15 et al., 16 17 Defendants. 18 19 20 21 22 23 24 25	Page 1062 1 APPEARANCES 2 3 Appearing for the Plaintiffs: 4 SIMON GREENSTONE PANATIER BARTLETT, PC 5 BY: CHRIS PANATIER, ESQ. 6 BY: LEAH C. KAGAN, ESQ. 7 3232 McKinney Avenue, Suite 610 8 Dallas, Texas 75204 9 214.276.7680 10 cpanatier@srgbllaw.com 11 lkagan@srgbllaw.com 12 13 Appearing for the Defendant Johnson & Johnson: 14 TUCKER ELLIS LLP 15 BY: SHARLA J. FROST, ESQ. 16 405 Main Street, Suite 500 17 Houston, Texas 77002 18 972.537.4205 19 sharla.frost@tuckerellis.com 20 21 Appearing for the Defendant Johnson & Johnson: 22 SHOOK HARDY & BACON LLP 23 BY: KATHLEEN FRAZIER, ESQ. 24 JPMorgan Chase Tower 25 600 Travis Street, Suite 3400 Houston, Texas 77002-2926 713.227.8008 kfrazier@shb.com 26 Appearing for Whittaker Clark & Daniels: 27 HOAGLAND LONGO MORAN DUNST & DOUKAS LLP 28 BY: MARC S. GAFFREY, ESQ. 29 40 Paterson Street, PO Box 480 30 New Brunswick, New Jersey 08903 31 732.545.4717 32 mgaffrey@hoaglandlongo.com 33 34 35

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Page 1064 1 APPEARANCES...(continued) 2 Attending via telephone: 3 DRINKER BIDDLE & REATH 4 BY: JACK N. FROST, ESQ. 5 600 Campus Drive Florham Park, New Jersey 07932-1047 973.549.7338 jack.frost@dbi.com (For Johnson & Johnson in all but Herford) 6 7 KING & SPALDING LLP 8 BY: ALEXANDER CALFO, ESQ. 9 633 West Fifth Street, Suite 1700 Los Angeles, California 90071 213.443.4365 acalfo@kslaw.com (For Johnson & Johnson in Herford case) 10 11 RAWLE & HENDERSON LLP 12 BY: LINDA DOBBINS, ESQ. 13 1339 Chestnut Street, 17th Floor Philadelphia, Pennsylvania 19107 215.575.4200 ldobbins@rawle.com (For Cyprus Amax Minerals Company and Imerys Talc America in NJ cases) 14 15 DENTONS US, LLP 16 BY: ERIN CARPENTER, ESQ. 17 601 S. Figueroa Street, Suite 2500 Los Angeles, California 90017-5704 213.623.9300 erin.carpenter@dentons.com (For Imerys Talc America, Inc. and Cyprus Amax Minerals Company) 18 19 HARRIS BEACH PLLC 20 BY: MATTHEW QUIRIN, ESQ. 21 100 Wall Street New York, NY 10005 212.912.3505 mquirin@harrisbeach.com (For Glaxosmithkline in Teuscher matter) 22 23 24 25	Page 1066 1 (On the record at 10:03 am) 2 VIDEOGRAPHER: We are now on the record. 3 This is the continued deposition of John Hopkins. The 4 date today is August 18, 2017, and the time is 10:03 5 am. 6 EXAMINATION: 7 BY MS FROST: 8 Q Good morning, Dr Hopkins. 9 A Good morning. 10 Q We have been with you for about three days, but 11 since we were doing the Plaintiff first, we're in a 12 little bit of reverse order. 13 So I'm going to ask you, if you would, 14 please, can you introduce yourself to the jury? 15 A Yeah. My name is John Hopkins. My academic 16 qualifications: I have a Bachelors degree in chemistry 17 and biochemistry from the University of St Andrew's in 18 Scotland and I have a PhD in toxicology from the 19 University of Dundee Medical School in Scotland. 20 Q Do I also understand that you hold a membership 21 in one of the Royal Societies in connection with your 22 work as a toxicologist? 23 A Yes. I'm a chartered biologist, but I'm also a 24 member of the Royal Society of Biology. 25 Q What is your relationship with Johnson &

Page 1067 1 Johnson? 2 A Johnson & Johnson is a past employer. I had 3 started off my work in toxicology. I worked in the 4 pharmaceutical industry for a couple of years from 1974 5 to 1976 and I joined Johnson & Johnson, the UK company, 6 in 1976. 7 Q How long did you stay with the UK company? 8 A I stayed with the UK company until the end of 9 1994 and then I moved to the United States company for 10 four years, '95, '96, '97, '98. 11 Q What positions did you hold during the time 12 that you worked for Johnson & Johnson? 13 A When I joined the UK company, I joined the 14 Medical Department, basically with responsibility for 15 safety in toxicology. 16 Q Did you later become the head of the Medical 17 Department? 18 A I became the head of the R&D group in the UK 19 company, and that's the point then I relocated to the 20 United States to be responsible for the baby products 21 R&D on a worldwide basis. 22 Q Let's talk a little bit about your 23 responsibilities as a toxicologist during your 25 years 24 at Johnson & Johnson. 25 What did you actually do?	Page 1069 1 powder? 2 A It did, indeed. Certainly, talc has always 3 been a topic of interest within Johnson & Johnson, and 4 certainly from my first joining the company in 1976, I 5 was involved in talking to people who are involved in 6 talc safety in the United States, regular meetings, and 7 basically keeping up to date with the literature and 8 what was going on. 9 Q We'll get back to that in more detail. 10 But I would like for you to tell the jury 11 what have you done professionally since you left 12 Johnson & Johnson in 2000? 13 A I left Johnson & Johnson as a full-time 14 employee in 2000, and I maintained contact with the 15 company as a consultant until approximately 2011, 16 mostly with the European affiliates. 17 But in 2000, I basically set up my own 18 company, a consultant toxicology company, and that 19 company, we work for basically anyone in the industry 20 who has an interest in safety of their consumer 21 products. 22 Q As part of your work as a consultant in your 23 own business, do you continue to evaluate the safety of 24 materials and carry out assessments of safety for the 25 ingredients that go into products?
Page 1068 1 A Basically, well, the role of a toxicologist is 2 to ensure the safety of the products, and not just baby 3 products. Initially, I was also involved in some of 4 the professional products. 5 But, as we're talking about baby products and 6 particularly baby powder, my responsibility was to 7 ensure that the materials used in the products are 8 safe, and that's basically a toxicologist's role. 9 Q You mentioned term "professional products". 10 We've not heard that before. What are you talking 11 about when you talk about Johnson & Johnson's 12 professional products? 13 A Well, certainly back in the 1970s, early 1980s, 14 the UK company had overall responsibility for products 15 that we see now as hospital products, surgical swabs 16 that are used in operating theaters, items that 17 surgeons use, the gowns, the head rest, and those kind 18 of medical products. 19 But in the mid '80s, they were split out into 20 a separate company and I stayed with the consumer 21 company. 22 MS FROST: Can whoever is on the phone please 23 mute? We're hearing feedback. 24 Q Did your role as a toxicologist call for you to 25 assess the safety of talc as an ingredient in the baby	Page 1070 1 A That is correct, yes. 2 In pretty well all of the toiletries and 3 cosmetics that you would go into Wal-Mart or any store 4 to buy, you would find that they list many, many 5 different ingredients. 6 And the role of the toxicologist is to ensure 7 that each of those ingredients is safe for the purpose 8 of use. 9 Q Do I understand that you are what is called a 10 "cosmetic safety assessor" under the EU cosmetics 11 directive program? 12 A Yes. 13 Q Could you explain that for the jury, please? 14 A Yeah. Essentially, in Europe products need to 15 have a file assembled before they're placed on the 16 market. That's not a premarket registration, but it's 17 the responsibility of the company to assemble a file, 18 including the safety of the products. 19 Part of that is a requirement for a safety 20 report, which typically could be 20, 30 pages long, to 21 review the product, the safety of the ingredients and 22 any final studies. 23 And to be an approved safety assessor, the 24 assessor needs to have the appropriate toxicological 25 background experience, and I have a qualification, a

Page 1071 1 chartered biologist, which enables me to be an approved 2 safety assessor for European cosmetic products. 3 Q How many of those are there in Europe? 4 A Well, probably in total, probably several 5 dozen, maybe a hundred more. In each country there's 6 maybe ten, 20 or 30 who operate privately through a 7 company, as I do. 8 Most of the large corporations will -- the 9 Unilevers, the Procter & Gambles, those kind of 10 companies tend to have their own inhouse people. 11 But people who operate as I do as a company, 12 probably ten, 15, 20 in the UK. Probably similar 13 numbers in other countries. 14 Q Now, you said that you had a PhD in -- did 15 I understand pharmacology and toxicology? 16 A That was the work I did, yes, for my PhD. 17 Q And what is pharmacology and toxicology? 18 A Pharmacology is the study of the way that 19 drugs, medicines work in the body, how the body reacts 20 to them, what kind of way that they work. If you've 21 got a heart drug or an antibiotic, it's the way it 22 works. 23 Toxicology relates to the safety of those 24 materials. So for any given material, we need to know 25 what is a safe level. You know, how many aspirin can	Page 1073 1 done over the years, assemble that data as to the 2 safety of raw materials. 3 Q Have you personally published papers in the 4 field of toxicology and biology? 5 A Yes, I have, yes. 6 Q Can you give us just a sense of the types of 7 papers and the volume that you have done? 8 A Well, the papers I've published from the three 9 and a half, four years I did for my PhD thesis were 10 related to the way that certain drugs react on red 11 blood cells in the body. 12 I was lucky enough to do my PhD in a teaching 13 hospital, so we had examples of getting human blood 14 samples and we looked at the way that certain drugs 15 reacted with those people. 16 I have done other work since then in the 17 cosmetic industry. One of the problems, of course, is 18 that a lot of that work is confidential and it tends to 19 be retained within the industry and you don't always 20 publish it, but I have done other work on skin safety 21 of a number of products. 22 Q In addition to having done written 23 publications, have you also presented at conferences 24 and so on on the issues of toxicology and biology? 25 A Yes, I have. Certainly since I set up my
Page 1072 1 you take that won't harm you? That's a very simple 2 example. 3 So a toxicologist looks at issues like the 4 dose response, how safe is one aspirin versus 20? And 5 the same applies to antibiotics and maybe heart drugs, 6 drugs for epilepsy. 7 So the toxicologist will learn to understand 8 what are the side effects of those drugs, and the basis 9 of that originally was how do they behave in rats and 10 mice. We look nowadays at how chemicals and drugs 11 behave in cell cultures systems. 12 You're essentially looking for how the drug 13 reacts with body or with cells. 14 Q Have you personally done any work in your 15 career to do that sort of individualized assessment on 16 pharmaceutical materials? 17 A Yes. I mean, going back to when I worked in 18 the pharmaceutical industry, I was responsible for 19 antibiotic safety programs. I had a team of people and 20 we developed products that certain types of synthetic 21 penicillins and antibiotics, and it means doing animal 22 safety studies before they're launched on the market. 23 Essentially, of course, when you come into 24 the cosmetic industry, the data is available in the 25 public literature, so you can read what others have	Page 1074 1 consultancy company, I have presented to young 2 scientists, young toxicologists, people particularly in 3 the cosmetic industry to give them an understanding of 4 how product safety is evaluated for cosmetics. I've 5 done that at a number of professional societies. 6 Q Dr Hopkins, this morning I want to talk with 7 you about a variety of topics, including talc, Johnson 8 & Johnson and its history, Johnson & Johnson's use of 9 talc, its evaluation of safety and so on, and we're 10 going to deal with those individually. 11 But before we do that, because some of the 12 questioning over the last three days had to do with 13 very specific documents that raised questions that I 14 believe need to be handled upfront, I would like for 15 you to go through with me some specific documents that 16 Mr Panatier talked about, and then we're going to get 17 back to the issue of Johnson & Johnson and who it is 18 and what it was doing. 19 But before we get into the individual 20 documents, I'd like to ask you can you tell the ladies 21 and gentlemen of the jury whether or not, from your 22 position both as a corporate representative and also as 23 a scientist, a toxicologist, is it important to 24 evaluate the totality of materials before you reach a 25 conclusion?

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1 A Yes. It's good scientific practice to, when
2 you're evaluating any chemical, any substance, and not
3 just in the cosmetic industry, but the same applies to
4 foods and food additives, that you aim to find all the
5 data you can -- good, bad, indifferent -- and read it
6 all and come to an overall conclusion.
7 Q Likewise, can you tell us whether or not you
8 believe that it is important to look at the totality of
9 the documents that are being evaluated in connection
10 with the questions that have been raised here?
11 A Yes. The same is -- the same situation
12 applies. It's important to review all documentation.
13 Q Okay.
14 The first document I would like for you to
15 look at -- I'm going to try and do these sort of in
16 numerical order to make it easier for all of us and for
17 the jury, but if you would look, we have the stack here
18 of the documents that have been admitted into the case,
19 and the first document that we want to look at is
20 number 17.
21 Here, I will give you my copy. I can see it
22 from here.
23 (Exhibit 17, previously marked, handed to witness)
24 A Thank you.
25 Q Do you remember this document from the

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1 questioning by Mr Panatier?
2 A Yes, I do, yes.
3 Q I'm going to go to the board.
4 Now, that's a document that -- a 1948
5 document that purports to be between one governmental
6 agency and another, does it not?
7 A It does, yes.
8 Q Who does it say it's from and who does it say
9 it's to?
10 A Well, the heading on the notepaper is the
11 Federal Security Agency, US Public Health Service,
12 Washington -- yeah, Washington DC.
13 Q And the topic of this document has to do with
14 findings in the Vermont mines, does it not?
15 A It does, yes. It's authored to Mr Harry Ashe,
16 Division of Industrial Hygiene in the State of Vermont,
17 Department of Public Health, Vermont.
18 Q Is there anything on that document that
19 indicate that it is went either to Johnson & Johnson or
20 to the Windsor mines?
21 A No. No, it doesn't mention Johnson & Johnson,
22 nor does it mention the Windsor mine.
23 Q The document itself, does it indicate in fact
24 anything about the identity of the mine that is being
25 discussed as part of the correspondence?

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1 A No, it does not, no.
2 Q I'm going to put a zero with a line through it,
3 and we will understand that that means no.
4 But in connection with the evaluation of this
5 document, does this provide you any information to use
6 to assess either the safety of the talc being purchased
7 by Johnson & Johnson at any time or the behavior
8 associated with that purchase?
9 A No, it does not.
10 Q You may set that aside.
11 The next document we're going to look at it
12 is number 22.
13 (Exhibit 22, previously marked, handed to witness)
14 And this document, if you would take a look
15 at it, please --
16 A Okay.
17 Q -- Mr Panatier asked you some questions, but
18 I'm going to ask that you turn to the flag on the
19 document.
20 And the question that I have for you, in
21 connection with the mine in Italy from which Johnson &
22 Johnson received its talc, does this document help us
23 identify the specific mine from which its talc was
24 received?
25 A Yes, it does actually name the mine.

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1 Q And what is the name of that mine?
2 A It says in one sentence:
3 "All of the J&J talc will come from the
4 Fontana Mine".
5 Q In connection with evaluating the documents in
6 this case, is it important to distinguish between the
7 various mines in the Val Chisone area?
8 A Yes, it is.
9 Q And why is that?
10 A Well, there are many different mines. The Val
11 Chisone area covers a very large acreage. There are
12 many, many mines in the Val Chisone valley, and what
13 this identifies is the specific mine that the Johnson &
14 Johnson talc comes from.
15 Q In evaluating the documents that are introduced
16 in this case, would you tell us whether or not it is
17 important for the readers of those documents to take a
18 look at which mine is being discussed as it -- he or
19 she evaluates what is being talked about in the
20 documents?
21 A It is important, yes. If we review documents
22 that relate to a different mine, then it's not relevant
23 to Johnson & Johnson.
24 Q You may set that aside.
25 In evaluating the issues related to the

Page 1079 1 individual mines, Mr Panatier asked you some questions 2 about the variability of the mines and the fibers and 3 the geology. 4 Would you, as a toxicologist, rely on the 5 geologists, who are familiar with the mineral 6 structures and developments of the individual mines, to 7 provide information about the type of minerals in an 8 individual deposit? 9 A Yes. The geologist is the expert who would 10 understand the quality of the mine, or he or she would 11 understand the kind of mineralogy in the mine, and 12 would give a professional overview of the quality of 13 the talc from the mine. 14 Q During the time that you were working for 15 Johnson & Johnson, did you rely on outside geologists 16 to provide you with information concerning the mineral 17 content of the mines from which talc was received? 18 A Yes, yes, I did. I was aware that the company 19 had chartered a specific geologist to examine the 20 quality of the mines involved. 21 Q And we're going to talk in some detail about 22 the specific geologist and the findings. 23 But, in general, you were asked some 24 questions about document 36, and I'm going to hand you 25 the cover page of that.	Page 1081 1 report to Johnson & Johnson in connection with the 2 evaluation of the Hammondsville mine? 3 A They concluded that the reserves were 4 3.75 million tons of ore containing 767,000 tons of 5 platy talc. 6 Q And remind us, please, what is platy talc and 7 why is that significant? 8 A Okay. Platy talc is the kind that's used in 9 the cosmetic industry. Essentially, if you were to 10 look at a sample of the talc under a microscope, you 11 would see it looks like little dinner plates, little 12 side plates. 13 And the point of the platiness is that when 14 one little plate slides over another, it gives that 15 smooth, silky feeling that you're looking for on the 16 skin and prevents chafing. 17 Q Did they conclude in their report to Johnson & 18 Johnson that there were asbestos minerals in the 19 Hammondsville mine? 20 A They concluded there were no asbestos materials 21 in the Hammondsville mine. 22 Q What was the date on that, please? 23 A The report is dated December 4, 1970. 24 Q Let's turn now to number 41. 25 (Exhibit 41, previously marked, handed to witness)
Page 1080 1 (Exhibit 36, previously marked, handed to witness) 2 Can you tell us who it shows to have 3 conducted the evaluation on the mine reflected in 4 number 36? 5 A The title is Colorado School of Mines, Geology 6 and Ore Reserves, Hammondsville Mine, Windsor Minerals 7 Inc: 8 "The attached report completes our work on 9 the nature and magnitude of ... [the] ore body in 10 Vermont from which we manufacture Baby Powder talc". 11 Q Thank you. 12 And then let's look, what did they report to 13 have been the objective of the study that was 14 commissioned from the Colorado School of Mines by 15 Johnson & Johnson in connection with the Hammondsville 16 mine? 17 A The Colorado School of Mines stated that: 18 "The objective of this study was to estimate 19 an ore reserve tonnage and quality of the Hammondsville 20 mine. In conjunction with this, it was necessary to 21 study in detail the geology of the mine and the 22 mineralogy of the ore material. This latter 23 information will facilitate future mine development and 24 planning". 25 Q And what did they ultimately conclude and	Page 1082 1 This is a document from which Mr Panatier 2 read some portions. He asked you to read portions of 3 the document, but he did not ask you to read the 4 remainder of the document. 5 If you will take a look at this? 6 MR PANATIER: Sorry, what? 7 MS FROST: Exhibit number 41. 8 MR PANATIER: Okay. 9 THE WITNESS: Okay, I've taken a look at 10 this, yes. 11 BY MS FROST: 12 Q Okay. Who is that from and who is that to? 13 A It is from Dr Nashed in Johnson & Johnson to a 14 Mr L Foster in Johnson & Johnson. 15 Q And what does Mr Nashed report to Mr Foster? 16 A He describes the ore manufacturing process and 17 he states that: 18 "The ore undergoes a careful purifying 19 process which includes a 36-step washing process to 20 maximize its content of high lubricity platy talc ..." 21 Q Okay. Stop right there. Thirty-six step 22 washing process. 23 Would that indicate to you whether or not the 24 company was taking efforts to ensure that it had the 25 finest quality of talc to use in its baby powder?

Page 1083 1 A It would, yes. 2 Q And then you read a portion of this document 3 earlier, but the paragraph I would like for you to read 4 into the record is the final paragraph of this 5 document, which Mr Panatier didn't ask you about. 6 Could you please read that for us and then 7 I'll have a couple of questions? 8 A Yeah. 9 "We will be receiving sometime next week a 10 report from our consultant, Professor FD Pooley ... 11 University College of Wales ... Great Britain. He has 12 completed an exhaustive examination of a sample of baby 13 powder by electron microscopy and other sophisticated 14 techniques. His oral report is ... it contains no 15 asbestos." 16 Q Two things there. 17 What type of testing does it indicate that Dr 18 Pooley conducted on the baby powder sample? 19 A Electron microscopy. 20 Q Would you remind us, please, what is the 21 significance of using electron microscopy versus some 22 other method of evaluating the baby powder? 23 A Well, electron microscopy, transmission 24 electron microscopy, or other means of electron 25 microscopy, allows you to go right down to look at	Page 1085 1 Mr Panatier didn't ask you to read this 2 particular paragraph when you talked with him about the 3 document. Can you read that paragraph and explain to 4 us the significance of it? 5 A Yeah. 6 "I have just re-examined the G-11 sample and 7 find no chrysotile in the second sample. There was one 8 fiber, but it gave a different diffraction pattern from 9 that of chrysotile." 10 Q What -- if you would, please, remind us the 11 diffraction pattern? What is the significance of that? 12 A Well, when you're using x-ray diffraction, for 13 example, you get a numerical -- a numerical value can 14 be printed out or presented that identifies different 15 crystalline structures and it's given a numerical 16 number. 17 So, essentially, you get a number and you try 18 and match up that number with the kind of mineral 19 that's present. 20 Q So we now have -- from the documents you 21 reviewed with Mr Panatier, we have an evaluation of the 22 Hammondsville mine in 1970 and it reflects no asbestos, 23 we have the Pooley report in 1971 that reports no 24 asbestos, and we have the McCrone report in 1971 that 25 reports no chrysotile, which would be no asbestos in
Page 1084 1 parts per million of a product. 2 In other words, it is very, very 3 sophisticated. 4 Q The date again on that? 5 A The date on that is July 29, 1971. 6 Q So in 1971, a report from Dr Pooley was, what? 7 A It essentially said his oral report is that the 8 baby powder contains no asbestos when measured by 9 electron -- electron microscopy. 10 Q You may put that aside. 11 The next document I'd like you to look at is 12 number 44, which Mr Panatier asked you some questions 13 about. 14 (Exhibit 44, previously marked, handed to witness) 15 If you would take a quick look at that, who 16 is that from? 17 A It's from an outside agency, Walter McCrone 18 Associates to -- 19 Q What's the date? 20 A It is dated September 3, 1971. 21 Q What does it report? 22 A It reports the preliminary report on the 23 Grantham ore in the Shower to Shower medicated powders. 24 Q And if you will turn to the next page to the 25 paragraph that I have marked?	Page 1086 1 the sample that was evaluated. 2 From your perspective on behalf of Johnson & 3 Johnson, what is the significance of those reports from 4 the outside consultants? 5 (Tannoy sounded) 6 (Off the record at 10:30 am) 7 (On the record at 10:33 am) 8 BY MS FROST: 9 Q Doctor, before the fire alarm, we were talking 10 about what is the significance, from the perspective of 11 Johnson & Johnson, to have received in the 1970 and '71 12 time period these three different reports in connection 13 with their talc? 14 A Well, the significance was that coming from 15 different people, it was clear that there was no 16 asbestos in the talc that was Johnson's Baby Powder and 17 Johnson's products. 18 Q You may set that particular document aside. 19 The next document we are going to look at is 20 Exhibit number 55, which Mr Panatier talked with you 21 about. 22 (Exhibit 55, previously marked, handed to witness) 23 But there was a period that he did not ask 24 you to read that I'm going to ask you to take a look 25 at.

Page 1087 1 But, first of all, number 55, this is the 2 written report from Dr Pooley, is it not? 3 A It is, yes, yes. 4 Q And what does it reflect here on the front 5 cover? 6 A It is -- the title of the report is from the 7 Department of Mineral Exploitation, University College 8 Cardiff, Wales. 9 Q And for those of us who are Americans and don't 10 really understand the significance of the University 11 College of Cardiff, why was the University College of 12 Cardiff an appropriate outside consultant to retain to 13 evaluate a mineral issue on behalf of Johnson & 14 Johnson? 15 A That particular university department has a 16 long-standing expertise in understanding mineralogy. 17 In that particular locality, there has been over a 18 hundred years of mining, mostly coal but also iron ore, 19 and so mineral expertise develops around that in the 20 universities and colleges. 21 And so that expertise developed into a very 22 high quality geology department that came with some 23 very experienced people. 24 Q And we spoke yesterday and the day before and 25 the day before that about Dr Pooley. Is Dr Pooley one	Page 1089 1 provide information useful in the comminution of 2 particularly the talc ore samples, and also displays 3 the non occurrence of asbestiform amphiboles in the 4 talc ore". 5 Q A couple of questions for you on that. 6 The implication from the questioning by 7 Mr Panatier was that the photomicrographs indicated a 8 presence of asbestiform mineral in the ore deposits 9 evaluated by Dr Pooley in Italy. 10 Based on the final written report, can you 11 tell us whether or not that is an accurate implication? 12 A It doesn't reflect what the geologist wrote. 13 He states very clearly: 14 "... the non occurrence of asbestiform 15 amphiboles in the talc ore". 16 Q Remind us, if you would, what is the 17 relationship between an amphibole and asbestos, since 18 the language there is slightly different than just 19 asbestos? 20 A Yes. Amphiboles can occur in asbestosform or 21 not asbestosform, and what he's saying is there's no 22 asbestos amphiboles present. 23 Q The language of that report conclusion would 24 seem to indicate that the photomicrographs that were 25 attached and illustrated by Plaintiffs' counsel earlier
Page 1088 1 of the faculty members there, or did he have some other 2 relationship with the university? 3 A He was initially a leading researcher and then 4 he became Professor in the mineralogy department. 5 Q Right. 6 What I would like for us to turn to, we saw 7 on Exhibit number 41 that in the paragraph that was not 8 read into the record that Dr Pooley had provided an 9 oral report that there was no asbestos. 10 However, this is a written report. Can you 11 take a look at page that's Bates numbered 95 and read 12 for us what did the ultimate conclusion of the written 13 report demonstrate in connection with the evaluation of 14 the talc used by Johnson & Johnson? 15 A Yeah. 16 Professor Pooley presented a report from his 17 studies in the mine, a very detailed report, it looks 18 like almost an inch thick, but he essentially 19 summarizes on this first page: 20 "In the following pages (no. 7 to 48) the 21 Italian specimens are systematically described as 22 regards [to] their mineral composition and mode of 23 intergrowth. Numerous photomicrographs taken under PPL 24 and XN are provided with the description to mainly 25 illustrate the rock textures which, it is hoped, will	Page 1090 1 this week related to areas of the mine other than the 2 mine ore. 3 Why would that information be provided in the 4 context of a report of this nature? 5 A Essentially, if you are entering a mine, you 6 will come across different kinds of rock. It was 7 formed in the geology many, many millions of years ago. 8 It's important when you're mining that you 9 know what else is there besides the talc ore. So it's 10 not unreasonable to have a look at what the else is in 11 the mine and know where to go and where to avoid. 12 Q You may set that one aside. 13 Let's take a look at document number 56, 14 which you talked about with Mr Panatier. 15 (Exhibit 56, previously marked, handed to witness) 16 If you would like a look at that, what is 17 number 56? 18 A It is a letter from Dr Nashed of Johnson & 19 Johnson. It's a memo to the file, a report of a 20 meeting at the FDA in September 21, 1972. 21 Q Right. Let me stop you there. 22 So in 1972, the company was meeting with the 23 FDA; correct? 24 A This is a report of that meeting, yes. 25 Q And can you remind us was it obligatory for

Page 1091 1 Johnson & Johnson to meet with the FDA, or was it 2 voluntary for them to meet with the FDA? 3 A No, it's always been voluntary. 4 Q In connection with this particular document, 5 look at paragraph 1. 6 Who joined the Johnson & Johnson team to make 7 this particular presentation to the FDA? 8 A It was Dr Pooley from University of Wales in 9 the UK. 10 Q And I believe you discussed one portion of this 11 paragraph with Mr Panatier, but the portion that he 12 didn't read I have marked at the bottom. 13 Can you read for us, please, what did Dr 14 Pooley report to the FDA in connection with his 15 evaluation of talc from Turin? 16 A Yes. He -- Dr Pooley: 17 "He pointed out that the mine contained two 18 species of chlorite ore which show x-ray peaks which 19 could be confused with chrysotile asbestos. He also 20 mentioned that the Italian Mining Institute at Turin 21 ... [had] also determined no chrysotile asbestos in the 22 mine. He presented data on [the] SHOWER-TO-SHOWER and 23 Italian talc samples provided by Johnson & Johnson 24 England dating back to 1949, establishing [the] absence 25 of chrysotile asbestos by various techniques,	Page 1093 1 Q What is a talc shard? 2 A Very simply, talc normally takes the form of a 3 plate-like structure, but if you break a plate you will 4 end up with a piece that is not any longer the shape of 5 a plate, but a piece that's broken off. 6 So a talc shard could well have a non-platy 7 appearance, but it's still talc. 8 Q The document goes on to describe what happened 9 further in the meeting. 10 How did they characterize how the meeting 11 went with Dr Lewin? 12 A Well, when I read this, I think they were 13 having a little difficulty with Dr Lewin, because it 14 states: 15 "The meeting was beginning to deteriorate in 16 a nonfruitful pathway. I interrupted to suggest a 17 compromise, namely, that Dr Lewin has carried out the 18 procedure we had agreed on in the last meeting. It was 19 one obvious that the X-ray scan did not show definitive 20 chrysotile, [and] that microscopy was indicated, and 21 since Dr McCrone is very familiar with this technique, 22 I suggested that the decision be made that Dr Lewin 23 work with Dr McCrone to establish the best microscopy 24 technique to be followed. Dr Schaffer [FDA] obtained 25 [an] agreement from ... [Dr] Lewin and [Dr] McCrone to
Page 1092 1 (E[lectron] Microscopy, diffraction, X-ray, and 2 microscopy)". 3 Q So what is the significance of the information 4 presented by Dr Pooley to the FDA in connection with 5 this particular meeting? 6 A It essentially can be summarized that there was 7 no asbestos in the US Shower to Shower product and 8 there was no asbestos in the Italian talc samples from 9 today. 10 That was 1972 and going back to 1949. 11 Q If you will flip to the second page, please -- 12 I guess it would be the third page, I can't count this 13 morning. 14 There is another paragraph which Mr Panatier 15 did not ask you to review. Look at the first paragraph 16 at the top of the page on page 3, and if you could read 17 that for us, and then I'll have a couple of questions? 18 A "Dr McCrone [who was also present] reviewed the 19 data by Dr Lewin and pointed out a logical explanation 20 for what Dr Lewin was seeing, namely, [that] the talc 21 had not one but three refractive indices, and Dr 22 Lewin's observations only indicated this fact and not 23 the presence of chrysotile. Dr Stewart pointed out 24 that Dr Lewin's photographs indicated only talc 25 shards."	Page 1094 1 implement this suggestion". 2 Q In connection with the work that the FDA was 3 doing with talc, can you tell us whether or not this 4 indicates that Johnson & Johnson and the outside 5 consultants it had retained were co-operating with the 6 FDA in order to evaluate the appropriate techniques for 7 the evaluation of the talc that was being sampled? 8 A I would say that very much indicates 9 co-operation. There's free exchange of ideas and 10 suggestions to move things forward. 11 Q All right. You may set that one aside. 12 Next document we are going to look at is 13 another that you talked about with Mr Panatier, number 14 63. Do you recognize that one? 15 (Exhibit 63, previously marked, handed to witness) 16 A Yes. 17 Q And this one is dated what? 18 A This one is dated June 28, 1977. 19 Q Now, in the portion that you talked with 20 Mr Panatier about, you -- he focused on some of the 21 evaluation techniques, but what I would like to look at 22 is what the document says about the purpose of the 23 audit meeting in connection with Windsor 66 talc? 24 A It states very simply: 25 "To formalize the audit testing currently

Page 1095 1 performed to ensure the absence of asbestos in Windsor 2 66 Talc, the following protocol is currently being used 3 ..." 4 Q Why would Johnson & Johnson be performing an 5 audit of the talc that is being used and characterized 6 as Windsor 66? 7 A Essentially, the same reason I mentioned a 8 little while ago that you need to ensure that you have 9 a clean mine and that the mine does not contain 10 asbestos. 11 Q And when the phraseology that it uses -- 12 A Very simple. It says: 13 "... to ensure the absence of asbestos in 14 Windsor 66 Talc ..." 15 Q You may set that one aside. 16 Next document that he talked with you about 17 and had you read some portions, but not all, is number 18 69. 19 (Exhibit 69, previously marked, handed tow witness) 20 What is number 69? 21 A It's a report described as New Reagent 22 Systems -- Plant Trial at Windsor Minerals Inc. 23 Q Can you tell what the date of that is? Do we 24 have a date on that document? 25 And if there's not one easily --	Page 1097 1 Q And remind me, please, which mine is that? 2 A This relates to the Windsor mine, producing 3 talc grade 66. 4 Q You may set that one aside. 5 Next document is document number 81. 6 (Exhibit 81, previously marked, handed to witness) 7 What is the date on that, please? 8 A It's dated 20 October, 1975. 9 Q To whom is it addressed and from whom? 10 A It's from Walter McCrone Associates, Consulting 11 Laboratory, and it's addressed to Mr Roger Miller of 12 the Windsor Minerals Company in Vermont. 13 Q Now, Mr Panatier asked you some questions about 14 the second sentence of the third paragraph in this 15 document. 16 Would you please read the entirety of that 17 paragraph to give us context? 18 A Yeah. The first sentence was, we discussed 19 yesterday: 20 "None of the methods of examination showed 21 any evidence of asbestiform minerals present in any of 22 the three samples. Both light microscopy and 23 transmission electron microscopy indicated that the 24 unbeneficiated talc was somewhat more fibrous than the 25 Hammondsville talc to which we ... [were] accustomed".
Page 1096 1 A We do not. We do not, no. 2 Q Okay. 3 Now, I believe you spoke with Mr Panatier 4 about some information on the sort of the first and 5 last pages. 6 But the part I wanted to focus on that we did 7 not look at is on page 5 of the document. 8 Looking at the first paragraph on page 5, 9 what does that report concerning the amphibole content 10 in the talc product? 11 A "There were no significant differences with 12 respect to the amphibole content in the test products. 13 The detected amphibole minerals did not appear [to be] 14 ... fibrous [in] form in any of the product samples." 15 Q Okay. 16 So no fibrous form of amphibole in the 17 product samples; is that correct? 18 A That is correct. There were no fibers present. 19 Q What is the significance of that comment to you 20 in your role as a toxicologist, or as a corporate 21 representative? 22 A It provides an ongoing reassurance that, 23 certainly in the mine and the evaluation of the mine, 24 there is no amphibole materials present that are 25 asbestos.	Page 1098 1 Q Then on the next paragraph what does -- what do 2 they conclude concerning their evaluation of the 3 materials that they were looking at? 4 A The last sentence simply states: 5 "No evidence of ... amphiboles were 6 detected". 7 Q You may set that one aside. 8 Next document that he talked with you about 9 that I would like to look at is number 83. 10 (Exhibit 83, previously marked, handed to witness) 11 This is a document from 1980. What is this 12 one? 13 A It's a document dated October 17, 1980, and 14 it's titled Procedure for Identification and 15 Quantification of Amphibole Particles in J&J Talcs 16 Using Optical Mineralogical Microscopy. 17 Q And Mr Panatier asked you about the first line, 18 which talked about the techniques used to evaluate talc 19 for the freedom from asbestos minerals, but he did not 20 talk with you about the general comments that explain 21 the process. 22 First of all, what is this particular 23 document? What is the import of it? 24 A It's a Johnson & Johnson document and it 25 describes the procedures that are followed to examine

Page 1099 1 talc for freedom from asbestos. 2 It reports the techniques, optical 3 microscopy, CTFA method J4 using x-ray, and, third, 4 scanning electron microscopy, plus dispersive x-ray 5 analysis for particles less than 5 microns. 6 And then they move on to state General 7 Comments: 8 "The method is applicable to the amphibole 9 type minerals in the size of 5 microns and above. In 10 ... all cases amphibole observed is specifically 11 tremolite, or actinolite if iron is present. The 12 tremolite/actinolite observed in talcs is present in 13 relatively large particle size, e.g., one dimension at 14 20 microns or greater". 15 And then it states that: 16 "The particle shape is non-fibrous and ranges 17 from equant granular to thick columnar elongated 18 particles with parallel prismatic cleavage". 19 Q Can you put that in plain English for those of 20 us who don't speak science? What do they mean in that 21 last particular sentence there? 22 A Simply they're saying that where you find 23 tremolite/actinolite material, it is not fibrous in 24 nature. 25 It would be described as "chunky" material,	Page 1101 1 talcs. 2 I am marking deposition Exhibit number 220 in 3 connection with the document number 84. 4 (Exhibit 220 marked for identification) 5 Have you seen document number 220 previously? 6 A I think I have seen this, yes. Yes, yes. 7 Q And what does number 220 tell us? 8 A It says: 9 "We are sending seven samples for asbestiform 10 analysis via transmission electron microscopy". 11 That's from Windsor Minerals Inc to Electron 12 Optics Group at Walter McCrone Associates. 13 Q Right, and do the numbers there correspond with 14 the numbers reported on the report from August, which 15 is document number 84? 16 A Yes. 17 Q Okay. 18 I am marking number 221. 19 (Exhibit 221 marked for identification) 20 Mr Panatier. 21 This is another document related to the 22 samples. If you would take a look at that, please, 23 what does that tell us about the samples whose numbers 24 correspond to the report reflected in number 84? 25 A Those seven samples are described as Grade 76,
Page 1100 1 but certainly not fibrous in nature. 2 Q And if the tremolite is not fibrous, what is 3 the significance of that? 4 A It is not asbestos. 5 Q You may set that aside. 6 You were shown a number of documents related 7 to mineral samples that were done by the McCrone 8 Environmental Services Laboratory and you talked a 9 little bit with Mr Panatier yesterday about the 10 characterization of samples that have the prefix WMI, 11 and I want to return to that. 12 Let's look at document number 84. 13 (Exhibit 84, previously marked, handed to witness) 14 What is your understanding of the 15 significance of the descriptor WHI? 16 A WMI. 17 Q WMI, I'm sorry? 18 A Yeah. It describes product that's come from 19 Windsor Minerals Inc, WMI. 20 Q And I am going to -- what does the I indicate 21 as part of the extension? 22 A My belief is that I -- these were industrial 23 talcs. 24 Q Let's talk a little bit about that to make sure 25 that we can confirm that these in fact are industrial	Page 1102 1 Grade 76, Grade 76, Grade TC-700, Grade 76, Grade 2 TC-700, Grade 76. 3 Q What is the significance of the Grade 76 4 designation as it relates to these particular examples? 5 A Well, it clearly differentiated it from the 6 talc that's used in baby powder, which is Windsor Grade 7 66. 8 Q When you reviewed the transmittal letter, the 9 schedule and the report, what does that tell you 10 concerning the evaluation and any mineral content 11 related to the minerals evaluated and reported in 12 document number 84? 13 A Essentially, those seven minerals that were 14 evaluated were not relating to the talc that's used in 15 Johnson's Baby Powder or Shower to Shower products. 16 Q Was it always the case that the talc grade used 17 for baby powder from Windsor was Grade 66? 18 A Grade 66 is the reference given to talc that's 19 always been used for baby powder. 20 Q So in evaluating the documents, it would be 21 important for the jurors not just to make sure that the 22 mine being discussed in the document is the same, but 23 it's also important to identify that -- whether or not 24 the exact sample is in fact Grade 66 or some other 25 grade?

Page 1103 1 A Yes, there needs to be a clear differentiation. 2 Only Grade 66 is used in baby powder, and these results 3 do not relate to the talc that's used in baby powder. 4 So -- 5 MR PANATIER: Can I just -- I'm going to 6 state for the record, these documents weren't produced 7 to us here. These appear to be from the ovarian 8 production. So I never got these. 9 But, anyway, I'm just going to state that for 10 the record, and go ahead. 11 MS FROST: Only 66 was used for baby -- 12 MR MAIMON: This is Moshe Maimon. 13 Can we have an identification of the document 14 by Bates number? 15 MR PANATIER: Yeah. 16 MS FROST: Yeah, I'd be happy -- I can read 17 that. 18 Happy to do that. 19 (Reporter clarification) 20 Yes, for the record, the document that is 21 marked as Exhibit 220 has the Bates number -- it has 22 two Bates numbers. 23 The first is J&J0004479. The second is 24 JNJ000065646. 25 Number 21 has also two Bates numbers. The	Page 1105 1 BY MS FROST: 2 Q Back to the question. 3 In connection with the results reflected in 4 number 84, do those results tell us about the mineral 5 content of cosmetic baby powder or not? 6 A No, those results have no relevance to cosmetic 7 baby powder. 8 Q You may set that aside. 9 Let's look at number 85. 10 (Exhibit 85, previously marked, handed to witness) 11 This is a document that you discussed with 12 Mr Panatier. What is that document? 13 A It's a letter from Joseph Schmidt in Johnson & 14 Johnson to a Mr J Molnar and Mr RM Miller. 15 Q Now, Mr Panatier talked with you about some 16 materials in the second paragraph, but I want to talk 17 with you about the first paragraph of this document. 18 What is the subject matter being discussed in 19 this document? 20 A Okay. It describes the Windsor Minerals raw 21 talc submissions from November, 1986, to January, 1987. 22 Q And what does it report as the finding 23 regarding those samples? 24 A It states: 25 "The accompanying table summarizes the
Page 1104 1 first is J&J0004480. The second number is 2 JNJ000065647. 3 MR MAIMON: For the record, those prefix for 4 Bates number series were not among the production to us 5 in this case. So I just want to note that. 6 MS FROST: And which case are you referring 7 to, Mosh? 8 MR MAIMON: The Lanzo case. 9 (Reporter clarification) 10 The production of documents in New Jersey 11 were under different Bates ranges. 12 (Reporter clarification) 13 Mr Frost is on the line. He can confirm 14 that. 15 MR PANATIER: Just for the record, these 16 documents were indisputably not produced to us and 17 they're not in the Bates ranges that were produced to 18 us, nor with the Bates numbers that were produced to 19 us. 20 These are clearly from the ovarian 21 production. 22 MS KAGAN: Which we were told was not 23 relevant. 24 MR PANATIER: Okay. All right. Let's go 25 ahead.	Page 1106 1 amphibole mineral content of various talc samples 2 submitted to date for microscopic ... [examination]. 3 The counts per slide were obtained by ... dispersion 4 staining ... on acid-washed samples. Few acicular, and 5 no fibrous forms, were observed". 6 Q What is the significance of that finding as it 7 relates to the Windsor Mineral raw talc submissions 8 during that time period? 9 A As describing them as no fibrous forms, they 10 are suggesting and indicating that there was no 11 asbestos in those samples. 12 MR PANATIER: What was the date? 13 THE WITNESS: January 30, 1987. 14 MR PANATIER: Thank you. 15 BY MS FROST: 16 Q I think we have one more before we get back to 17 a more linear discussion. 18 Number 155, which you discussed yesterday 19 with Mr Panatier. 20 (Exhibit 155, previously marked, handed to witness) 21 What is the date on number 155? 22 A January 14, 1975. 23 Q And what is that document? 24 A It's a letter on Windsor Minerals letterhead. 25 The author is Vernon Zeitz, Manager of Research and

Page 1107 1 Development -- 2 Q And -- 3 A -- to Roger Miller, also at Windsor Minerals. 4 Q During this time period, was there a 5 relationship between Windsor Minerals and Johnson & 6 Johnson? 7 A Yes. Yes, Windsor Minerals were supplying talc 8 to Johnson & Johnson. 9 Q Now, I believe you spoke with Mr Panatier about 10 the samples being submitted, including both industrial 11 minerals, which were identified as GI, and Windsor, 12 which is identified as WI, and the ores in the cosmetic 13 production, which is HC. 14 But the thing that you didn't discuss with 15 him is the concluding paragraph. 16 Can you tell us what the concluding paragraph 17 reports in connection with the evaluation of the 18 minerals? 19 A It relates to industrial in addition, but it 20 states very clearly: 21 "In conclusion it can be stated with a 22 greater than 99.9% certainty that the ores and 23 materials produced from the ores at ... [the] Windsor 24 Mineral locations are free from asbestos or asbestiform 25 materials".	Page 1109 1 hospitals, surgical swabs, and basically medical 2 ingredients that are used in operations. 3 Q Where was it located? 4 A In New Brunswick, State of New Jersey. 5 Q Has it always been head quartered in New 6 Brunswick? 7 A In that location, yeah, in the area. 8 The facility has moved slightly over the 9 years, but within the State in that area, yes. 10 Q At what point did Johnson & Johnson get into 11 the business of making baby powder? 12 A It was one of those things that occur just as 13 they occur. 14 The products which were sold as adhesive 15 plasters, sometimes quite large, maybe four inches by 16 five inches, were sold, and some people would react to 17 the strong adhesive. 18 So a doctor wrote to the Johnson company in 19 the early 1890s and suggested that he'd found that if 20 you added a little bit of high grade talc to the area 21 where the adhesive material had been removed, it would 22 be tender on the skin and would protect the skin. 23 Certainly back in the day, I guess that 24 adhesives were much stronger than they are now. 25 So it was a way of soothing the skin, and he
Page 1108 1 Q What is the significance of that report, from 2 your perspective? 3 A It would certainly indicate that the mine was 4 producing clean material, free from asbestos. 5 Q You may set that aside, please. 6 Let's take a five minute break. I'll get all 7 my stuff organized. 8 (Off the record at 11:05 am) 9 (On the record at 11:12 am) 10 BY MS FROST: 11 Q Dr Hopkins, you introduced yourself to the 12 jury, and we've given them an understanding of your 13 background, but one of the other things I would like to 14 do is to introduce Johnson & Johnson to the jury. 15 When was Johnson & Johnson founded? 16 A A long time ago. From what I can understand, 17 around about 1878. 18 Q And what was the origin of Johnson & Johnson? 19 A The origin was actually as a surgical dressings 20 manufacturer. 21 Q What does that mean for us Americans? 22 A Well, actually, it's an American term. 23 Surgical dressings related to simple things 24 like what later became Band-Aid or adhesive plaster 25 that goes on the skin, but also for use by surgeons in	Page 1110 1 thought it was a good idea, and so Johnson started to 2 send out little tins of this Italian talc powder with 3 boxes of adhesive plaster material. 4 Q So in the talc business starting in the 1890s? 5 A I believe about 1894. 6 Q When it begin in the business of selling baby 7 powder in 1984, from where did it source the talc? 8 A From the records that I've seen, it was 9 originally sourced from the same Italian mine we've 10 spoken about from Italy from the Val Chisone valley. 11 Q What are the years that the company used the 12 talc from the Val Chisone valley in Italy? 13 A It was the main source up until during the war, 14 1941, but there were examples of a domestic talc used 15 at certain times. 16 There were political difficulties in the US 17 in the Depression, and we found that there've been 18 cases where the talc was sourced from -- just described 19 as "domestic", possibly Californian. 20 But during the war, talc shipments from Italy 21 were being delayed or sunk, and so there was a move 22 towards using again what is described as "domestic 23 talc" for some period of time in the 1940s. 24 Q So from the 1890s up to roughly World War II. 25 The source of Italy?

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1 A Mainly Italy with a little bit of exception.
 2 There's some indication that domestic talc was being
 3 used probably some time in the 1920s, probably during
 4 the time of the Depression.
 5 Q And then after World War II, what is your
 6 understanding of the source of the talc?
 7 A Well, after World War II, shipments from Italy
 8 were getting through with no problem, and from then on
 9 it was used in Johnson's Baby Powder and other baby
 10 products, other products until approximately 1968.
 11 Q What happened in 1968 to cause the company to
 12 cease using the Italian talc and move to a different
 13 source?
 14 A Well, at that time, the company had validated a
 15 domestic source of talc from a mine in the State of
 16 Vermont, which was owned by the company, and they had
 17 qualified it to use a grade of talc which was later
 18 known as Grade 66, and that approved grade was used
 19 instead of importing from Italy.
 20 Q Now, the type of talc that was used from Italy,
 21 you just mentioned the Windsor 66 Grade.
 22 Was there a specific grade of talc used by
 23 Johnson & Johnson in connection with its baby powder
 24 products that it received from Italy?
 25 A Yes, right the way through it always described

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1 as "five zeros", which is 00000 talc.
 2 That was the grade that was used from Italy.
 3 Q You said that there had been a mine qualified,
 4 if I understood your terminology.
 5 What do you mean by that in connection with
 6 the change from the Italian mine to a second mine?
 7 A Yeah. The mine in the State of Vermont was,
 8 obviously, when you open a new mine, it takes time to
 9 ensure that the quality of the talc is the kind of
 10 grade that you're looking for and will meet the
 11 specification you require in terms of its feel its
 12 platiness, freedom from unwanted materials.
 13 So that's part of the mine qualification.
 14 Q We'll talk about the mine process in a little
 15 bit more detail shortly.
 16 But how long did the company use the Vermont
 17 mine as the source for the talc that it used in baby
 18 powder and its other cosmetic body powders?
 19 A From approximately 1968 to about 2003.
 20 Q And what did it do in 2003?
 21 A There was another mine source qualified, which
 22 has tended to be used globally. Not just for Johnson &
 23 Johnson in the United States, but in AsiaPacific
 24 countries and in Europe, and the grade moved to a very
 25 similar high purity grade from a mine in China.

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1 Q What is the grade from the mine in China?
 2 A It's given the title J200.
 3 Q We've been talking an awful lot about talc.
 4 What exactly is talc?
 5 A It's a mineral. It's mined underground, and,
 6 as with all minerals, it has a chemical composition,
 7 and chemists would describe it as a magnesium silicate.
 8 Q Magnesium silicate?
 9 A Yes.
 10 Q In terms of softness or hardness, where does
 11 talc lie on the -- sort of the scale of soft to hard?
 12 A Okay. Well, scientists rate materials from
 13 very hard to very soft on a scale. So just about the
 14 hardest material known to science is diamond.
 15 But at the other end of the scale the
 16 material talc is pretty well one of the softest
 17 materials known to science.
 18 Q Does talc come in different varieties or types?
 19 A Yes. Yes. It depends on the mine and the
 20 geology, and that's why, when you're looking for
 21 cosmetic talc, you're looking for a product that meets
 22 the requirements of cosmetic talc, in softness and
 23 platiness.
 24 Q We've talked about softness of talc. What does
 25 that actually mean in terms of texture or usage?

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1 A Simply, the point of talc is you put it on your
 2 skin. It should feel soft.
 3 Words like "silkeness", "lubriciousness" --
 4 those words are used to describe how it feels on the
 5 skin.
 6 Q What does "lubriciousness" mean?
 7 A It's a lovely word, isn't it?
 8 Q It is.
 9 A It means oily almost. Almost like a lubricant.
 10 It has that very soft, oily feel when it's
 11 placed on the skin and rubbed on the skin.
 12 Q I'm going to hand you what I have marked as
 13 Exhibit 222.
 14 (Exhibit 222 marked for identification)
 15 What is that?
 16 A It's a pile of rock. It looks like talc. It
 17 certainly looks like talc.
 18 When talc is first mined, it's broken down
 19 into baseball, tennis ball size pieces, and this is
 20 what talc looks like when it first comes out of the
 21 mine and is broken down into tennis ball size pieces.
 22 Q Can you turn that around?
 23 Madam Videographer, can you get that, or is
 24 it too far away?
 25 VIDEOGRAPHER: I can try ...

Page 1115 1 Okay. 2 MS FROST: Got it? 3 Q And if you'll turn to the second page, what 4 does that show? 5 A Well, that shows what talc looks like under a 6 microscope. It's a general field, a high field, so it 7 shows the talc particles which are recognized to have 8 what we describe as a "platy structure". They look 9 like little side plates, dinner plates. 10 Q Can you turn that around? Can you point to 11 what you're talking about so that the jury can see? 12 So it's the -- 13 A In its crystal structure, it's the one this 14 side. That's a broad view of what a group of talc 15 particles look like under a microscope. 16 If you raise the microscopic field to get a 17 higher power, you can get a picture of what one or two 18 talc particles look like. 19 Essentially, we describe them as "plate-like" 20 or "platy". 21 Q After it is ground, what does it look like? 22 A Well, after it's ground, it has the appearance 23 that we described a minute ago of little plate-like 24 particles. 25 Q Are there uses for talc other than for baby	Page 1117 1 free of asbestos. They're generally very white in 2 color, very pure. 3 Industrial grades, as I said before, talc is 4 a magnesium silicate, but there are other magnesium 5 silicates that are found and they can quite 6 legitimately be used in industrial grades of talc. 7 Q You mentioned that talc can be used in certain 8 food stuffs. Are you familiar with the FDA's 9 determination of the use of certain food products as 10 being safe? 11 A Yes, I am, yes. 12 Q Can talc be used in foods based on its safety 13 and the recognition of its safety? 14 A Well, providing the talc quality specification 15 meets the FDA standards, it is allowed to be used in 16 food contact materials sold in the United States, and 17 indeed in other countries. 18 Q What sort of standards does the FDA have for 19 talc for use in foods? 20 A The FDA has a specification which describes the 21 quality of the talc. 22 It describes the parameters or features such 23 as whiteness, fineness, freedom from certain materials, 24 including freedom from asbestos materials. 25 Q I'm going to hand you what I have marked as
Page 1116 1 powder? 2 A Yes, talc has long been used as an industrial 3 material. In fact, I believe approximately at least 4 90, 92 per cent of the talc that's mined around the 5 world is used in industrial applications, and some of 6 those include, of course, paper. It's a filler in 7 paper that we use. 8 It's used in used in automatic tires as a 9 filler with the rubber. It's used in some packaging 10 materials. It's used in roofing materials for the 11 roofing material that goes on many roofs. It's also 12 used in a number of other applications. 13 Food, for example -- certain foods are 14 permitted to have talc added to them. I believe it's 15 in chewing gum, and in some countries rice is treated 16 with talc to prevent it sticking together. 17 Q Let me stop you there. 18 Is there a difference in the uses of the 19 industrial talc that you've been describing and 20 cosmetic talc? 21 A Yes. 22 Q How is it used in cosmetic talc? 23 A Well, the cosmetic, and sometimes we talk about 24 cosmetic or pharmaceutical talcs, are of a very high 25 grade, and in fact one of the requirements is they're	Page 1118 1 Exhibit 223. 2 (Exhibit 223 marked for identification) 3 Can you tell us what that is? 4 A It's a definition of what are called "GRAS 5 substances". G-R-A-S. 6 Q And what is a GRAS substance? 7 A A GRAS substance is a term used within the 8 United States and it's kind of adopted elsewhere around 9 the world. It stands for Generally Recognized As Safe. 10 Q And looking at number 223, what does this tell 11 us about what the FDA has concluded about talc and its 12 use as a generally recognized safe substance? 13 A It states that it is recognized under a certain 14 report from 1979 as approved as a GRAS substance. 15 Q And if we look at the bottom of the page on 16 page 1 of Exhibit 223, where it talks about definitions 17 of labels, can you read for us, please, what the FDA 18 has said in connection with the Generally Recognized As 19 Safe characteristics of various products, not just 20 talc? 21 A Yes. A Generally Recognized As Safe substance 22 is defined as: 23 "A food substance that is not subject to 24 premarket review and approval by FDA because it is 25 generally recognized, by qualified experts, to be safe

Page 1119 1 under the intended conditions of use". 2 Q We've talked about the use of talc in baby 3 powder going all the way back to the 1890s. 4 In the time that Johnson & Johnson has been 5 manufacturing baby powder, what has been the formula or 6 the components of the baby powder? 7 A Baby powder comprises typically 99 per cent 8 talc powder with a small trace of fragrance. 9 Historically, there was addition of other 10 ingredients. One that's come to light is a material 11 called sodium sesqui citrate, which is a -- it's 12 actually used as a food additive; it's added in table 13 salt to stop salt from clogging in the little holes 14 when you invert your salt on your food. 15 Q What was the point of using it in baby powder. 16 A Essentially, basically, to stop any baby powder 17 from clogging in the little holes. 18 Q Does Johnson & Johnson still use sodium sesqui 19 citrate in the use of baby powder? 20 A No. It was something that was done just for a 21 few years, but I think it was discontinued many, many 22 years ago. 23 Q As it relates to the baby powder, has Johnson & 24 Johnson historically done anything to test the powder 25 for minerals that weren't talc, whether we're talking	Page 1121 1 if asbestos were present, it would be shown up by the 2 evaluation that was done from approximately 1946 3 onwards. That was a microscopic examination. 4 Q Let me hand you what I have marked as Exhibit 5 224. 6 (Exhibit 224 marked for identification) 7 What is this document? 8 A It is a specification, and a specification is a 9 description of what a product should look like, feel 10 like and the chemical and various physical features of 11 that product. 12 And this relates to powdered talc used by 13 Johnson & Johnson. 14 Q Okay. 15 And we've talked a little bit about 16 specifications over the last few days, but what is a 17 specification and what is the significance of having a 18 specification that relates to a raw product? 19 A A specification describes what a product should 20 look like, feel like and any chemical studies that you 21 do on it. 22 So, for example, it describes it as: 23 "... a very fine, white powder, free from 24 grittiness ..." 25 So if you received from the factory or from
Page 1120 1 about asbestos or something else? 2 A Well, when you evaluate baby powder by 3 techniques such as x-ray diffraction, you can determine 4 if there are other minerals present. 5 You would pick those up if they were present. 6 Q Why would you not want other minerals present 7 in the baby powder? 8 A For two reasons. One, they may have properties 9 that were unpleasant on the skin and didn't feel good; 10 and, two, they may be harmful or toxic. 11 So you basically try to avoid any material 12 that is unwanted, either because it's harmful or 13 doesn't feel good on the skin. 14 Q You mentioned earlier lubricity. How does 15 non-talc mineral affect the lubricity of the baby 16 powder? 17 A If you have particles that are, for example, 18 needle-like, sharp or granular, they would not give 19 that nice silky, smooth feeling. It would feel like 20 rubbing sandpaper on your skin. 21 Q How long has Johnson & Johnson been evaluating 22 the talc in its baby powder to determine whether there 23 is any additional mineral or contaminant in the ore? 24 A Looking back through the records, the oldest I 25 could find was one which has a cover note stating that	Page 1122 1 the mining site a dark brown powder which felt gritty, 2 that clearly would not meet the specification. 3 And we can look at other features of the 4 specification, such as the water content or its 5 solubility in acid, or how fine it is. 6 So those are all described on the 7 specification to ensure that when you receive a product 8 from the mine or from the factory, the same product is 9 the same every time and it meets the quality required. 10 Q Would it be fair to say that a specification is 11 used to ensure that a supplier is providing to the 12 purchaser the product that it wants to buy? 13 A It is. The specification is generally agreed 14 between the purchaser and the supplier. 15 The supplier is advised: this is what we 16 want. Anything you send to us should meet this 17 specification. 18 Q Now the document that we are looking at, number 19 224, what is the date on the document? 20 A The date on this particular version is 21 February 22, 1955. 22 Q Now, attached to it there are some other items 23 that appear to have an earlier date. 24 What are the materials that are attached to 25 Exhibit 224?

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1 A This is a guide, which is dated August 14,
2 1946, from a book, and this gives guidance to the
3 people evaluating the specification as to what talc
4 should look like for cosmetic purposes, and indeed what
5 it should not look like for cosmetic purposes.
6 So there are several photographs here.
7 Q Does it provide anything in this specification
8 that relates to the presence of asbestos or other
9 minerals?
10 A It doesn't mention the word "asbestos" back in
11 1946, but as an alternative it uses the term
12 "acicular", A-C-I-C-U-L-A-R, and that is the Latin name
13 for a needle.
14 So it's saying that there should not be any
15 needle-like crystals present.
16 Q Would an acicular fiber include asbestos, or
17 would it not include asbestos?
18 A Asbestos would be -- fall under the heading of
19 an acicular fiber.
20 Q Based on your review of the documents, how far
21 back does the requirement to be free from acicular
22 fibers extend?
23 A Well, with the cover note I've seen for this
24 Exhibit 224, it described it as being relevant from
25 1946 onwards.

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1 Q So since at least 1946, Johnson & Johnson has
2 been evaluating the talc it received from its supplier
3 to determine whether it met the specification to be
4 free from acicular particles or not; is that correct?
5 A That is correct, yes.
6 Q And what is the significance of that from your
7 perspective as it relates to the purity of the baby
8 powder over time?
9 A It means that, certainly since 1946, probably
10 even earlier, if you've taken talc from the 00000 mine,
11 the talc would not contain asbestos.
12 Q Is talc acicular?
13 A No, talc is platy in structure. It looks like
14 little -- little dinner plates.
15 Q Now, you showed us the pictures of talc and the
16 dinner plates.
17 How does asbestos look if you see it under a
18 microscope?
19 A Generally, there are different kinds of
20 asbestos, but generally they all have a very similar
21 appearance under a microscope. They look like needles.
22 Very, very different from the plate structure.
23 Q Let me hand you what I have marked as 225.
24 (Exhibit 225 marked for identification)
25 What is this?

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1 A It's a picture of three types of commercial
2 asbestos, crocidolite, amosite and chrysotile.
3 Q If you would, please, flip that around and
4 let's show that to the jury.
5 How does that differ from the plate-like
6 version of the talc?
7 A Well, clearly, each of those different types of
8 asbestos are needle-like in structure. They look like
9 needles.
10 Q And I'm going to hand you back the previous
11 view of talc.
12 Can you hold those up together?
13 A So the talc is the classic plate-like structure
14 under the microscope, which is clearly very different
15 from needles under the microscope.
16 Q Okay. You can set those aside.
17 To your knowledge, has Johnson & Johnson ever
18 been in the business of selling asbestos?
19 A No. J&J has never sold asbestos.
20 Q Has Johnson & Johnson ever been in the business
21 of selling products to which they intentionally added
22 asbestos?
23 A No, Johnson & Johnson has never been selling
24 products with intentional addition of asbestos.
25 Q The 1946 and 1955 specifications that we were

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1 talking about, did those specifications go specifically
2 to health-related issues, or were they developed in
3 connection with broader concerns concerning the talc
4 and the baby powder products?
5 A They were developed to ensure that the quality
6 of the talc met the requirements of the company.
7 We said earlier that the talc should be free
8 from unwanted materials; that it should feel smooth and
9 silky on the skin.
10 So certainly by avoiding what we described as
11 needle-like structures, then you're not going to get
12 that unpleasant, prickly feeling on the skin.
13 Q As part of your work as an employee and then as
14 a consultant on the safety issues for the company, are
15 you familiar with the quality control testing that
16 Johnson & Johnson performed on the talc that it used?
17 A Yes, I am, yes.
18 Q If you would, give us just a short overview
19 about the steps that J&J took to ensure the talc it
20 used was free of asbestos, and then we're going to talk
21 about those various steps in some detail?
22 A Okay.
23 Well, the first part is to ensure that the
24 mine from which the talc is obtained is not going to
25 allow contamination of the product with asbestos. So

Page 1127 1 to ensure that the quality of the ore coming out of the 2 mine is talc that meets the cosmetic pharmaceutical 3 grade. 4 Then the next stage is to examine the quality 5 of the talc after it's been taken from the mine, ground 6 down into the fineness that you require for body 7 powders, and then going into packaging, being cleaned 8 up and ready for sale. 9 So there are two issues there. One is to 10 ensure the mine is clean; and then ensure the product 11 is clean. 12 Q Let's talk first about the mines. 13 You said that the mines had to be evaluated, 14 and you used the word "qualified" earlier. 15 What steps did Johnson & Johnson take to 16 evaluate a mine? 17 A Well, we've alluded to some of that in the past 18 hour. 19 It's important to get the involvement of 20 expert geologists to look at what's going on in the 21 mine, to look at the type of talc that's available in 22 the mine, and to look at materials that you don't want 23 in the mine to ensure that they can be avoided by the 24 miners. 25 So that's part of the qualification of the	Page 1129 1 company. 2 And he was involved in co-ordinating many 3 approaches, dealing with geologists, dealing with 4 outside agencies, dealing with regulators, dealing with 5 facilities who would evaluate the talc. 6 And one of his roles was to regularly visit 7 talc facilities to ensure that the mine was doing what 8 was required of them. 9 I do remember he went to the China mine many, 10 many years ago to help open that up and help qualify 11 it. 12 He visited the Vermont mine in Italy and -- 13 sorry, the Vermont mine in the United States -- and the 14 mine in Italy. 15 So he was a regular visitor to work with the 16 people and ensure that they produced the kind of 17 product that Johnson & Johnson required. 18 Q Now, we've talked about the mine in Italy and 19 the mine in Vermont and the mine in China. 20 Did Johnson & Johnson ever evaluate any other 21 mines that it concluded didn't meet its qualifications 22 for use in the baby powder product? 23 A Well, the way that that was done was that, 24 certainly once Professor Pooley had reported on the 25 Vermont mine and the Italian mine, a program was
Page 1128 1 mine. 2 When you look at the quality of the talc, you 3 look at it by the best scientific techniques available, 4 look at it microscopically, with x-ray diffraction, 5 scanning microscopy, and whatever other techniques 6 you've got to ensure that the product is pure. 7 Q How did Johnson & Johnson go about that process 8 of determining whether the talc was pure in the ores 9 from which it obtained its talc? 10 A By involving outside expert geologists. As 11 we've alluded to earlier, Colorado School of Mines were 12 involved with the Vermont mine and later, in 1972, 13 Professor Pooley from the Geology Department of the 14 University of Wales was also involved in the Vermont 15 mine review. 16 Q You spoke over the last several days about a 17 gentleman by the name of Bill Ashton. What 18 involvement, if any, did Mr Ashton have in evaluating 19 mines to determine whether they were appropriate for 20 use by Johnson & Johnson? 21 A Well, Mr Ashton was a senior scientist in 22 Johnson & Johnson. We called him "Mr Talc". 23 He'd been employed from approximately 1950 24 until he retired as a consultant, I think about the 25 year 2003. So he had a long history of talc in the	Page 1130 1 considered and set in place to look at the talc that 2 was being used by non-US affiliates around the world. 3 That was an international program done on a 4 regular basis to ensure that the talc that was being 5 used met the same quality standards as in the United 6 States, whether talc was sold in Philippines, in 7 England or India. 8 So there was a regular audit of the product 9 that was being used in those countries. 10 Q Did Mr Ashton ever evaluate mines or products 11 and conclude that they weren't a fit for Johnson & 12 Johnson? 13 A No, he never actually had to do that. 14 The mines that were being used met at the 15 times those quality standards required. 16 Q We talked about the change from Italy to 17 Vermont. Why was it that Johnson & Johnson made the 18 decision in the late 1960s to change the source of its 19 ore from Val Chisone in Italy to Vermont? 20 A I've never actually seen the written records. 21 My understanding, having spoken to Mr Ashton, is that 22 taking a domestic source from Vermont and packing it in 23 the State of New Jersey is a lot easier than shipping 24 many thousands of miles from Italy. 25 It was a case of: we have a good mine nearby,

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1 let's use that.
2 (Reporter requested phones to be muted)
3 Q Let's move, then, from the question of how
4 Johnson & Johnson qualified a mine, and let's talk
5 about the testing that it did of the ore -- hang on a
6 second?
7 MR PANATIER: Hey, folks on the phone --
8 MS FROST: Yeah. Whoever's on the phone,
9 please put your phone on mute. We're getting feedback
10 from one or more of you.
11 Q We'll try that again.
12 A Okay.
13 Q You mentioned that, in addition to evaluating
14 the mine and determining the purity of the ore, that
15 Johnson & Johnson also did testing -- the subsequent
16 product.
17 So let's break that into two parts. First,
18 the ore, and then we will talk about the finished
19 product.
20 What did Johnson & Johnson do to test the
21 talc ore itself?
22 A The talc ore was evaluated by a regular audit.
23 Initially, obviously, when you're developing a new
24 mine, you do a lot of testing to ensure that the
25 quality of the talc meets the required quality and

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1 specification.
2 Once the mine is operating and it's producing
3 talc, then the requirement then is to confirm that the
4 talc has not changed as you progress through the mine.
5 So there was a regular audit on the talc
6 that's been produced from the mine. That's a mine
7 audit.
8 Q Was there ongoing testing that permitted
9 Johnson & Johnson to evaluate the quality of the talc
10 ore from the mines that it used as -- was provided by
11 its suppliers?
12 A There was a program, or is still a program, to
13 evaluate the ore on a quarterly basis. So that, as you
14 progress through the mine, that is confirmed on a
15 quarterly basis that the mine is still producing the
16 correct grade of talc.
17 Q What's the significance of the grade of talc?
18 A Well, the grade of talc, as we've talked about
19 in the -- when we use the word "specification", relates
20 to its purity, its whiteness, its softness, feel on the
21 skin, and absence of unwanted materials and minerals.
22 Q Did Johnson & Johnson have a specification for
23 the Windsor 66 talc, specifically?
24 A Yes. There's a separate specification for that
25 talc.

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1 Q I'm going to hand you what I have marked as
2 226.
3 (Exhibit 226 marked for identification)
4 Can you tell us what is this?
5 A It's a letter from a Johnson & Johnson employee
6 with the Baby Products Company to another Johnson &
7 Johnson employee.
8 It's dated May 4, 1977, and the subject is
9 Windsor 66 Talc Specification, Proposed Asbestos
10 Requirements.
11 Q Let me stop you there.
12 This is a 1977 letter, but did Johnson &
13 Johnson have a talc specification for the Windsor 66
14 mine prior to 1977?
15 A Yes, it did.
16 Q In connection with that specification, what was
17 the expectation for the quality of the talc received
18 from the supplier at Vermont?
19 A That it should be free from asbestos.
20 Q Now, the document that we are looking at here,
21 number 226, it actually uses specifically the word
22 "asbestos", does it not?
23 A It does, yes, yes.
24 Q Was that a new requirement in 1977?
25 A That particular word was relatively new in 1977

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1 on the specification.
2 Q Would the specification, prior to 1977, have
3 encompassed materials that included asbestos, or would
4 it not have?
5 A It would have included, to ensure that the
6 product was free from asbestos prior to this document.
7 Q Based on your review of the materials, why was
8 it that Johnson & Johnson changed the wording during
9 the time period 1977?
10 A My understanding, and speaking to people, was
11 to ensure that there was absolute clarity and
12 clarification between the mine and the purchaser,
13 Johnson's Baby Products, that the products should be
14 free from asbestos, and used the word "asbestos",
15 rather than any other word, such as "acicular". It
16 moved from acicular to clearly stating asbestos.
17 Q What was the frequency of the testing that was
18 associated with the evaluation of the Windsor 66
19 materials?
20 A My recollection is that that testing was done
21 quarterly to evaluate as it progressed through the
22 mine, that on a quarterly basis the product still met
23 the requirements to be free from asbestos, and indeed
24 met the other quality specifications.
25 Q What other quality specifications were there?

Page 1135 1 A There's quite a long list. 2 It lists the maximum amount of moisture you 3 can have. It describes the microscopic structure, free 4 from materials that are unwanted and platy-type, it 5 describes its bulk density, it describes its color, 6 fineness, maximum limits for heavy metals, and the 7 amounts of water soluble iron. 8 So there's a long list of quality 9 descriptions that the product should meet. 10 Q We keep talking about whether or not there is 11 asbestos in talc and specifications that there not be 12 any asbestos or acicular particles or anything of that 13 nature in the talc. 14 Why would one be concerned about the 15 existence of those materials in conjunction with talc? 16 A Well, if those materials were present, if there 17 were asbestos materials present, then it would be 18 described as not meeting the specification. 19 And certainly at that time, people were 20 beginning to be aware that the quality of talc should 21 be asbestos free. 22 Q Can you describe for us the finishing process 23 that's associated with making the talc ore appropriate 24 to go into a finished baby powder product? 25 A Yes. Keeping it very simple, the talc is talc	Page 1137 1 control, the regular quality control, as a check on the 2 powder before it's shipped for filling. 3 Q When did Johnson & Johnson begin to test baby 4 powder and Shower to Shower products? 5 A In the talc form, certainly in the '60s, '70s, 6 it was part of the process specification. 7 Q Were there standard methods that Johnson & 8 Johnson used for its testing of the talc? 9 A Yes, and over the years those methods developed 10 as science and technology improved and various methods 11 have been used. 12 Q More specifically, did Johnson & Johnson have a 13 standard method for testing talc specifically for 14 asbestos? 15 A Well, originally, yes, back in the 1960s it 16 would have been optical microscopy, and certainly a 17 competent optical microscopist can see if there's 18 asbestos present under a good microscope if you look at 19 enough slides. 20 Then going forward, you can look at some of 21 the other techniques that have been developed, such as 22 x-ray diffraction and transmission electron microscopy. 23 Q We keep talking about those terms. 24 Doctor, I have marked an Exhibit 226 that -- 25 MS KAGAN: 227.
Page 1136 1 rock, which we see the baseball, tennis ball size 2 pieces. They're ground down to fine particles. 3 You're aiming to get as many of the 4 plate-like particles as possible and minimize the 5 number of small, tiny particles that don't give you 6 that nice feel. 7 So a process is set up called "flotation", 8 whereby the ground material is placed into a water 9 bath, essentially. Bubbling agents or foaming agents 10 are added and the platy talc, the highest quality, the 11 nicest, softest talc, rises to the top and sits on the 12 bubbles at the top of the bath, and that is filtered 13 off or taken off, and any material that is not of that 14 quality sinks to the bottom and is removed. 15 So what you're aiming for is as high as 16 possible amount of the plate-like particles, because 17 that's what you're looking for to give the nice, silky, 18 smooth feel. 19 Q Okay. You can put that one away. 20 So we've now talked about the mine and the 21 ore. 22 Did Johnson & Johnson also test the finished 23 baby powder product itself to determine whether there 24 was any asbestos in the product? 25 A Yes. That was part of the regular audit	Page 1138 1 MS FROST: 227. Let me have that back, 2 please. Thank you. 3 (Exhibit 227 marked for identification) 4 Both sides have been lucky to have Ms Kagan 5 here to keep us honest on our numbers. We are looking 6 at number 227. 7 Q Just a sort of orient us, when you are talking 8 about these different types of machines that do 9 testing, I am a visual person, so it's helpful for me 10 to have some idea of what it is that you're talking 11 about, and I think that would probably benefit the 12 jurors as well. 13 Can you explain for us what these different 14 machines you have described look like, and in sort of 15 simplified terms what is the difference of what they're 16 looking for? 17 A I mean, the classic one in the middle is 18 optical microscopy, and this is a picture of a very up 19 to date, sophisticated model, certainly better than the 20 ones I remember from school, and that is a high powered 21 microscope that allows you to look at the talc in the 22 same way we looked at some of those pictures today. 23 You can see fine particles. 24 But, of course, technology has moved on, and 25 there are other methods. This one is a picture of a

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1 x-ray diffractometer, which measures x-ray diffraction,
 2 and that scans the talc particles and gives a printout
 3 of a numerical reference number, and that allows you to
 4 define what kind of minerals are present.
 5 Again, very simply, the transmission electron
 6 microscope allows you to look for fine, fibrous-like
 7 particles under the microscope.
 8 They have a very, very high sensitivity.
 9 They will work down to parts per million.
 10 Q Is the transmission electron microscope able to
 11 get down almost to a cellular basis? Is that what
 12 I understand?
 13 A It will go down pretty well, yes.
 14 The Food and Drug Administration used
 15 transmission electron microscopy in their audit of
 16 products on the US market in 2009, and they claim the
 17 detection sensitivity of .04 parts per million.
 18 Q Okay.
 19 A So it's pretty sophisticated.
 20 Q All right. You can put that aside.
 21 You spoke yesterday, I believe it was,
 22 although it may have been the day before, with
 23 Mr Panatier about a very specific testing method called
 24 J4-1, and we looked at what is in the record as Exhibit
 25 number 162. Let me hand that back to you.

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1 (Exhibit 162, previously marked, handed to witness)
 2 We're going to talk about that in detail in a
 3 minute.
 4 But in addition to this CTFA method, did
 5 Johnson & Johnson have any internal testing procedures
 6 that included review by the x-ray diffraction, optical
 7 microscope and/or transmission electron microscope,
 8 like the ones you just showed to the jury?
 9 A Yes. Although J&J didn't necessarily in the
 10 early days have some of the sophisticated equipment
 11 in-house, it was the company's policy to use outside
 12 experts who were -- had expertise in using x-ray
 13 diffraction and transmission electron microscopy.
 14 And it was the company's policy to use this
 15 particular method, which uses x-ray diffraction,
 16 polarized light microscopy and electron microscopy.
 17 Q Okay. When you say "this method", I can see
 18 that you are looking at the document.
 19 Are you looking at number 162, which is the
 20 CTFA method?
 21 A Yes, I am.
 22 Q Okay.
 23 If you would set that down for a moment.
 24 Why don't you tell the jury how did the
 25 Johnson & Johnson method relate to the CTFA method?

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1 Better? Worse? More comprehensive? Less
 2 comprehensive? How would you describe it?
 3 A It's more comprehensive.
 4 The CTFA method requires to do two tests.
 5 One, evaluate using x-ray diffraction, and if there's
 6 any question, to follow up with polarized light
 7 microscopy.
 8 The policy in Johnson & Johnson is to go a
 9 step further and have a product evaluated by
 10 transmission electron microscopy.
 11 Q How often was the talc that was used in baby
 12 powder and Shower to Shower tested with Johnson &
 13 Johnson's internal testing methods, starting in the
 14 1970s?
 15 A The test method was tested every two weeks on
 16 samples, every two weekly.
 17 Q Who performed that testing?
 18 A Generally, outside consultants.
 19 As I've said before, expensive equipment
 20 needs training and expertise in how to use it. So
 21 companies like McCrone Laboratories, EM Associates were
 22 used to give an outside opinion as to the quality of
 23 the talc using their equipment.
 24 Q Now, when we talk about the cost of the
 25 equipment, you would agree with me, would you not, that

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1 Johnson & Johnson could probably have afforded to buy
 2 its own equipment; right?
 3 A They certainly could, yes, yes.
 4 Q So why didn't they?
 5 A Well, it's relatively inexpensive to have a
 6 scan evaluated.
 7 But the main reason, to my understanding, is
 8 that to get a good result and to understand how to use
 9 this equipment is one that requires expertise and
 10 training.
 11 It's not something that I could do. I could
 12 not do that kind of work. I can look at an optical
 13 microscope. I can look at things, but when we're using
 14 very sophisticated equipment, like transmission
 15 electron microscopy or x-ray diffraction, we need
 16 people who've got a good experience as to how to use
 17 them so that the result is meaningful.
 18 MS FROST: Why don't we take a ten minute
 19 break? We've been going for about an hour.
 20 MS FRAZIER: Yeah.
 21 (Off the record 12:02 pm)
 22 (On the record at 12:12 pm)
 23 BY MS FROST:
 24 Q Doctor, we were talking about the CTFA J4-1
 25 process.

Page 1143 1 Remind us, who is the CTFA? 2 A It's the short name version for a group, the 3 Cosmetic Toiletry & Fragrance Association of the United 4 States, and that's a group of well known companies that 5 sell products you'll buy in most supermarkets, 6 Unilever, Johnson & Johnson, Estee Lauder, all those 7 well known names. 8 Q The process itself describes the use of 9 different technology. 10 What processes are required in order to 11 determine the absence of amphibole minerals in talc 12 using the J4-1 method? 13 A The J4-1 method states that the first test you 14 should use is x-ray diffraction to ensure there's no 15 amphibole minerals present. 16 Q Mr Panatier has asked you several times about 17 the comparison between using the J4-1 or one of the 18 other methods and his use of a magnifying glass to try 19 and find bacteria on his skin. 20 Is that, in fact, an apt analogy in terms of 21 how one goes about finding something from a scientific 22 standpoint? 23 A No, I think that's, to be honest, that's 24 probably a little bit of a difficult one to draw a 25 strong analogy.	Page 1145 1 A Well, Johnson & Johnson actually incorporated 2 that standard before the CTFA published. 3 CTFA published in 1977. My understanding is 4 that J&J were doing those same tests certainly a year 5 before then, and probably a little bit longer. 6 Q When you say that you understand that it was a 7 little bit earlier, what is the basis for that? 8 A It's having spoken with people within the 9 company who said that, because they were involved in 10 developing the CTFA standard, they were getting 11 expertise in using those same test methods via their 12 outside external consultants. 13 Q Does the talc used in Johnson & Johnson's Baby 14 Powder meet any other specifications? 15 That's probably a very poor question. 16 We talked -- these are industry standards, 17 but there are also standards for something that is 18 called the US Pharmacopeia; is that correct? 19 A Yes. 20 Q And what is the Pharmacopeia? 21 A The Pharmacopeia -- we see it as a book, or 22 several volumes of a book, and it describes the quality 23 of just about all the drugs and pharmaceuticals that 24 that you get prescribed to you, or even just over the 25 counter.
Page 1144 1 If you look on your skin with a 2 microscope slide -- 3 Q Why? 4 A -- sorry, with a hand microscope, or a hand 5 slid, you will never, ever see any bacteria. They're 6 just way too small to be seen through Sherlock Holmes' 7 magnifying glass. 8 If you look at talc under x-ray diffraction, 9 you will certainly at some level pick up whether there 10 is any asbestiform minerals there, including asbestos. 11 Q Is that because of the detection limit 12 difference with the magnifying glass, or some other 13 technical difference between the type of comparison? 14 A It is essentially the detection limit. 15 A hand magnifying glass will never, ever pick 16 up a bacterium on your skin, whereas x-ray diffraction 17 will pick up certain materials, such as asbestos, in 18 talc samples. 19 Q Even though it has a detection limit? 20 A Even though it has a detection limit, there is 21 a point at which it will pick them up, yes. 22 Q Does Johnson & Johnson's Baby Powder and Shower 23 to Shower have to pass the CTFA standard? 24 A As a basic starting point, yes. 25 Q And how long has that been so?	Page 1146 1 So everything from aspirin, acetaminophen, 2 right through to anti-virals, antibiotics, 3 beta-blockers, heart drugs, just about anything your 4 physician would prescribe you. 5 But it also includes materials that are what 6 are described as "excipients", so things that go to 7 make the little white tablets you put in your mouth; 8 materials like cellulose or starch or talc, which is 9 also used in those little white tablets. 10 So it describes the quality of materials that 11 go along with the drug, as well as the actual drug 12 itself. 13 Q We've been talking about industrial talc and 14 cosmetic talc. Is there also something called 15 pharmaceutical grade talc? 16 A There is. The United States Pharmacopeia sets 17 a standard for pharmaceutical grade talc. 18 Q I have marked and handed to you a document that 19 we -- is number numbered 228. 20 What is that? 21 (Exhibit 228 marked for identification) 22 A It is a description of what is the USP. 23 It describes the US Pharmaceutical 24 Convention, the USP: 25 "... is a scientific nonprofit organization

Page 1147 1 that sets standards for the identity, strength, 2 quality, and purity of medicines, food ingredients, and 3 dietary supplements manufactured, distributed and 4 consumed worldwide". 5 Q Does the Johnson & Johnson Baby Powder and its 6 Shower to Shower meet the standards for pharmaceutical 7 grade talc? 8 A Yes. The USP standard for pharmaceutical grade 9 talc is just about identical to the Johnson & Johnson's 10 standard for baby powder talc. 11 Q And I believe Mr Panatier asked you about the 12 nature of the US Pharmacopeia. 13 It is not a governmental agency. I think you 14 described it as a quasi governmental agency. 15 What did you mean by that? 16 A Well, as the USP heading describes, USP's 17 standards are enforceable in the United States by the 18 Food and Drug Administration. 19 So a branch of the government enforces the 20 USP's standards. 21 Q Does the USP set standards on minerals other 22 than asbestos that are permitted to be in 23 pharmaceutical grade talc? 24 A It does, yes, yes. 25 Q Well, I have handed you document number 229.	Page 1149 1 A Procedure 1 is to evaluate by infrared 2 absorption. 3 Q We haven't talked about that. Is that a 4 process that Johnson & Johnson uses to evaluate the 5 quality of the talc? 6 A No, that's not one that's widely used. 7 It has been used, but as an alternative, 8 Procedure 2, which is x-ray diffraction, is the one 9 that's Johnson & Johnson's initial evaluation. 10 And Procedure 3, which defines if you get a 11 result in Procedure 1 or Procedure 2, is to use optical 12 microscopy. 13 Q What is the outcome if the talc passes the USP 14 test? What is -- what are the implications in terms of 15 sales? 16 A Well, that talc can be used in pharmaceutical 17 applications, and indeed food applications. 18 Q How often is the talc used in baby powder and 19 Shower to Shower tested under the USP standard? 20 A Using the same test methodologies, batches are 21 sampled every two weeks. 22 Q We've now discussed the internal testing, the 23 industry standard J4-1, the USP test. 24 Are those all of the tests that are done on 25 the final Johnson & Johnson baby powder product?
Page 1148 1 (Exhibit 229 marked for identification) 2 Is that the set of standards applicable for 3 the USP? 4 A It is, yes. 5 Q And I guess standards applicable to talc for 6 the USP? 7 A Talc for the USP, yes, yes. 8 Q And can you just give us some examples? What 9 else does the USP set limits on in connection with the 10 talc? 11 A It sets a limit on the content of magnesium, a 12 limit on the content of iron. It sets standards for 13 the amount of water soluble substances. It sets a 14 limit on the amount of lead, a limit on calcium, a limit 15 on aluminum, and absence of asbestos, and the microbial 16 quality. 17 Q In connection with the standard for the absence 18 of asbestos, how does it instruct those who are 19 complying with the standard to do the testing? 20 A Well, to quote: 21 "Suppliers of talc may use one of the 22 following methods to determine the absence of asbestos. 23 Proceed as directed for Procedure 1 or Procedure 2. If 24 either test is positive, perform Procedure 3". 25 Q Okay, and what is Procedure 1?	Page 1150 1 A No. Johnson & Johnson takes that seriously and 2 takes it to the next level and uses transmission 3 electron microscopy as an additional follow up test. 4 Q In connection with that testing, despite the 5 materials written on the flip-chart by Mr Panatier over 6 the last several days, have you seen any testing from 7 the J4-1 method, the USP method, the internal testing 8 or TEM to demonstrate that there is asbestos in Johnson 9 & Johnson's Baby Powder? 10 A The answer to that question is no. I've never 11 seen any result which confirmed asbestos was present in 12 baby powder. 13 Q In addition to the testing that is done by the 14 company, are you aware of any testing done by 15 governmental agencies regarding Johnson & Johnson talc? 16 A Yes, I am, yes. The classic, well known one 17 was the Food and Drug Administration did a very 18 stringent analysis back in 2009. 19 Q I have marked and I'm handing you what I 20 believe is 230. 21 (Exhibit 230 marked for identification) 22 What is that, sir? 23 A This appears to be a print-off from the FDA 24 website relating to talc. 25 Q What was the FDA looking for in connection with

Page 1151 1 talc? 2 A It was looking for quality and purity, and in 3 particular it expressed that there was interest around 4 the topic of asbestos, and so they were interested in 5 examining talc to ensure that its quality was such that 6 it was safe. 7 Q Okay. 8 Looking at the second page of 230, what does 9 the FDA say that it was doing in connection with the 10 evaluation of talcum powders? 11 A Well, what is stated is How FDA followed up on 12 the latest reports: 13 "Because safety questions about the 14 possibility of asbestos in talc are raised 15 periodically, FDA decided to conduct an exploratory 16 survey of [the] current ... marketed cosmetic-grade raw 17 material talc, as well as some cosmetic products 18 containing talc". 19 Q Did Johnson & Johnson provide samples of its 20 product for testing by the FDA in 2009 and 2010? 21 A They did, yes. 22 Q Did the supplier for Johnson & Johnson supply 23 materials for the FDA to review as part of its testing? 24 A Yes, the supplier provided talc ore materials. 25 Q Would it be fair to say that Johnson &	Page 1153 1 either by polarized light microscopy nor by 2 transmission electron microscopy. 3 Q And what did they show to be the limit of 4 detection in the materials that they are using? 5 A Well, with the very sophisticated methodology 6 of transmission electron microscopy, they state that 7 the average limit of detection is .0000021 per cent, 8 which translates in parts per million to .021 parts per 9 million. 10 Q Looking at that level, did they find any 11 asbestos minerals in the ore submitted by either Rio 12 Tinto or Luzenac? 13 A They found no asbestos present in the minerals, 14 no. 15 Q Turning over to page 7 where it reflects body 16 powder, what does it show that Johnson & Johnson 17 submitted to be evaluated as part of the testing? 18 A Yes, it appears to show that Johnson & Johnson 19 submitted two products, Johnson's Baby Powder and 20 Shower to Shower Morning Fresh Body Powder. 21 Q What did the FDA report about the talc that 22 they reviewed -- the products they reviewed for Johnson 23 & Johnson? 24 A Well, looking for asbestos by both polarized 25 light microscopy and transmission electron microscopy,
Page 1152 1 Johnson's participation on -- in this FDA process was 2 voluntary, rather than mandatory? 3 A It was voluntary, yes. 4 Q Why would Johnson & Johnson voluntarily 5 participate in the evaluation of talc by -- at the FDA 6 in 2009 and 2010? 7 A I would summarize by saying that there was 8 nothing to hide and no fear that the product would be 9 found lacking in any way. 10 The company is very confident in the safety 11 of its product, at least in terms of freedom from 12 asbestos. 13 Q What sort of test did the FDA perform, as 14 reported in number 230? 15 A They used a well known contract laboratory and 16 they analyzed samples using two techniques, polarized 17 light microscopy and transmission electron microscopy. 18 Q What did they ultimately conclude concerning 19 the review of materials? 20 A They summarized their report. They looked at 21 the raw talc, talc that is actually used by Johnson & 22 Johnson. 23 Q Is that reflected on page 3? 24 A That's on page 3, and they reported that in the 25 seven samples evaluated, no asbestos was detected	Page 1154 1 they reported none detected. 2 MS FROST: This is probably a good place to 3 break -- 4 MR PANATIER: Sure. 5 MS FROST: -- for lunch. 6 Let's do a quick lunch if we can so we can 7 try and get finished. 8 (Off the record at 12:28) 9 (On the record at 12:58 pm) 10 BY MS FROST: 11 Q Dr Hopkins, we were talking about the FDA's 12 evaluation of cosmetic talc in 2009 and 2010 and their 13 findings in connection with both Johnson & Johnson's 14 finished products and the ore from which they get their 15 talc. 16 Prior to the 2009/2010 evaluation, had 17 Johnson & Johnson had interaction with the FDA 18 concerning asbestos testing that it was performing in, 19 say, the early 1970s? 20 A Yes, there was regular dialogue with FDA and 21 Johnson & Johnson on many occasions in the early 1970s. 22 Q And you talked -- I'm handing you number 231. 23 (Exhibit 231 marked for identification) 24 You spoke with Mr Panatier about some 25 interactions with the FDA, but I want to show you what

Page 1155 1 I've marked as 231. 2 What is this document? 3 A It's a letter on Johnson & Johnson letterhead 4 dated September 21, 1971. It's from Dr Nashed and to 5 Dr Schaffner at the Bureau of Foods, Food and Drug 6 Administration in Washington. 7 Q And what does it claim to do? 8 A Well, the subject is Johnson's Baby Powder and 9 it's a letter to Dr Schaffner at FDA as a follow up 10 from a meeting with FDA on August 3, 1971. 11 Q Right. It says on the document: 12 "As we discussed, we are submitting herewith 13 full reports of our investigations as follows ..." 14 What types of investigations was Johnson & 15 Johnson sharing with the FDA and the Department of 16 Health Education and Welfare in '71? 17 A Well, the subject is Johnson's Baby Powder and 18 the samples that are being shared with FDA are 19 described as: 20 Identification of samples used in the Pooley 21 report and the McCrone report; 22 A letter from the Colorado School of Mines 23 Research Institute; 24 A report by Johnson & Johnson Pharmaceutical 25 Research Section entitled "Particle size of JOHNSON'S	Page 1157 1 A That is correct, yes. 2 Q And why was J&J communicating this information 3 to the FDA? 4 A Johnson & Johnson was aware that FDA were 5 interested in the safety of talc, talc products, and 6 there had been discussion in the media and the press as 7 to whether or not there may be asbestos in talc 8 products. 9 So FDA were responding to that. 10 Q Okay. You can set that one aside. 11 We talked about the qualification of the 12 mines. I would also like to talk with you about the 13 specific testing of the mines. 14 One of the items identified in number 231 is 15 a report from Dr Pooley, and we have talked about Dr 16 Pooley and what he found. 17 I have for you document number 232. 18 (Exhibit 232 marked for identification) 19 There's a cover page and an attachment. 20 A Thank you. 21 Q What is number 232? 22 A Number 232, there's a cover page on letterhead, 23 University College, Cardiff, which is the University of 24 Wales, from Dr Pooley, Department of Mineral 25 Exploitation, and that's to Dr Shelley at Johnson &
Page 1156 1 Baby Powder"; 2 A report from Dr FD Pooley, University 3 College, Wales, which is described as "Report of 4 Investigations of Talc Samples supplied by Johnson & 5 Johnson"; and, finally, 6 Reports from Walter McCrone Associates (a) 7 and (b); 8 (a) is "Methodology for the Determination of 9 Asbestos in Talc; and 10 (b) "Examination of Baby Powder for Johnson & 11 Johnson". 12 Q Is this roughly all of the information that 13 we've been discussing this morning about the evaluation 14 of talc and finished product for Johnson & Johnson? 15 A Yes, that is my understanding is the sum total 16 of what was available in 1971. 17 Q And what does Dr Nashed say in connection with 18 page 2? What does he say about the outcome of the 19 data? 20 A Well, summarizing the reports from the five 21 people previously mentioned, he states: 22 "It is seen that the data conclusively proves 23 that JOHNSON'S Baby Powder is free of asbestos". 24 Q Was that what Johnson & Johnson thought in 25 1971?	Page 1158 1 Johnson. 2 Q And what do you understand that Dr Pooley did 3 in connection with his evaluation of the mine? 4 A This is a report which in two paragraphs states 5 that: 6 "The mineralogical x-ray and morphological 7 examination of the Italian mine samples has been in 8 progress for over a year. The samples [which] were all 9 collected under my supervision at the Fontana mine, 10 which is the same mine from which ... 'Shower to 11 Shower' sample was obtained". 12 And he goes on to state that the report 13 summarizes: 14 "No chrysotile was found at the mine or in 15 the samples taken, some tremolite was located, but was 16 not asbestiform in character and has not been detected 17 in the 00000 talc imported into Great Britain for the 18 past year, nor in shipments dating back to 1949". 19 Q Dr Pooley attach a report as part of his 20 correspondence to Mr Shelley? 21 A He does. He attaches a brief report. It looks 22 about six pages. 23 Q And what type of sampling does it indicate that 24 he did in connection with the testing? 25 A It's a sampling of samples from the Italian

Page 1159 1 mine, the basic rocks from different parts of the mine 2 where the mine runs, and also samples of the actual 3 talc that was in the mine. 4 Q And, again, the conclusion was? 5 A Well, there's a six page report, but the 6 overall conclusion is that there was no asbestos 7 present. 8 Q You may set that aside. 9 The letter talks about the mine, but it also 10 talks about samples of product, did it not? 11 A It did, yes. 12 Q What was his conclusion about the samples of 13 the product? 14 A What he stated was -- let's read it exactly. 15 "The data conclusively proves that Johnson's 16 Baby Powder is free from asbestos." 17 Let me read that again. Let me read it 18 exactly. 19 "No chrysotile was found at the mine or in 20 samples taken." 21 And then he goes on to say: 22 "Chrysotile was located, but was not 23 asbestiform in character and has not been detected in 24 talc imported into Britain for the past year, nor in 25 shipments dating back to 1949."	Page 1161 1 spent several days in the mine, looking at the 2 different kinds of rock in the locality of the talc 3 mining area; looked for types of rock that are not 4 mined, but could well be in the mine, and also to look 5 at the quality of the talc itself. 6 Q I have handed you what I have marked as number 7 233. 8 (Exhibit 233 marked for identification) 9 What is that? 10 A This is a report from Dr Pooley from the 11 Mineralogy Department of his university, which is 12 described as a Report of the Examination of the Rock 13 Samples from the Vermont Mine. 14 Q Okay. 15 What is the date of this, as best you can 16 tell? 17 A It's written -- handwritten, October, 1972. 18 Q What did he conclude after having reviewed the 19 Vermont mine, if we turn over to page 48, which is the 20 last page of the document? 21 A It's a long report. Yes, the conclusions are 22 on page 48, yes. 23 Let's read this carefully ... 24 Q I think -- 25 A I think the second paragraph is the key one:
Page 1160 1 Q Chrysotile is one of the types of asbestos that 2 you showed to the jury on the graphic earlier? 3 A Yes. 4 Q Was it not? 5 So none of that in the mine? 6 A He did not find that in the mine. 7 Q Likewise, he did not find that in the product. 8 Is that correct? 9 A That is correct, yes. 10 Q He mentions having looked at some samples going 11 back some years. 12 How far back did Dr Pooley evaluate samples 13 for Johnson & Johnson? 14 A It implies, which is clear from the letter, 15 that he looked at shipments dating back to 1949. 16 Q Okay. 17 Did Dr Pooley also look at the Vermont mine 18 for Johnson & Johnson? 19 A Yes, he did a separate audit of the Vermont 20 mine. 21 Q What is your understanding of what he actually 22 did in connection with his evaluation of the Vermont 23 mine? 24 A Very similar to what he did in the evaluation 25 of the Italian mine. Go down the mine. I know he	Page 1162 1 "The amphibole minerals were [not] found in 2 [the] discrete locations ... [nor] disseminated 3 throughout the talc ore and were not asbestiform ..." 4 I will read that again: 5 "The amphibole minerals were found in 6 discrete locations and not disseminated throughout the 7 talc ore and were not asbestiform in character". 8 Q Let me stop you there. What does that mean? 9 A Basically, he found no asbestos in the talc 10 ore. 11 Q Okay. 12 What does he say in connection with 13 serpentine mineral? 14 A "Serpentine mineral was found in the specimens 15 located at the center of the ore body but no fibrous 16 components were observed." 17 Q So what does that mean? 18 A Again, there was no asbestos in the -- in that 19 particular location. 20 Q And that location is the Windsor mine? 21 A This is the actual ore body of the Windsor 22 mine, yes. 23 MR PANATIER: Is that 233? 24 MS FROST: Yes. 25 Q Now, Mr Panatier talked with you about the

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1 various outside consultants, and this morning we have
 2 talked about the work that Dr Pooley did in connection
 3 with the Italian mine and the Vermont mine.
 4 Dr Pooley was not the only one who evaluated
 5 ore from the Vermont mine on behalf of Johnson &
 6 Johnson.
 7 Would you agree with me on that?
 8 A That is correct, yes.
 9 Q For a very long time, Johnson & Johnson
 10 retained an outside group to do some ongoing monitoring
 11 of the talc products, did they not?
 12 A They did, yes.
 13 Q And who was it that did the majority of that
 14 evaluation, or maybe all of that evaluation?
 15 A Much of the evaluation at one point was the
 16 Colorado School of Mines.
 17 Q Did they also use a commercial testing group?
 18 A They did, indeed.
 19 Q Who was that?
 20 A They used one of the few that were available,
 21 and that was McCrone Associates.
 22 Q I have marked number 234.
 23 (Exhibit 234 marked for identification)
 24 I didn't go back through all of the documents
 25 that Mr Panatier showed to you, although it may have

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1 felt to you and the jury like I did, but there were a
 2 number of testing results that he talked with you about
 3 from McCrone Laboratories.
 4 And rather than going back through all of
 5 those, I have provided you with number 234.
 6 What is this, sir?
 7 A This looks like a retrospective summary of
 8 events in the previous few years.
 9 Q And who is the letter from and who is the
 10 letter to?
 11 A It's from McCrone Associates, it's dated 21
 12 May, 1987, and it is to Mr Benninger at Armstrong World
 13 Industries Inc.
 14 Q Does it have a copy with anyone associated with
 15 Windsor Minerals?
 16 A It has a copy of -- to Mr Roger Miller at
 17 Windsor Minerals.
 18 Q And remind us, who is Mr Miller?
 19 A He was the -- basically, he was the Plant
 20 Director at the Windsor Minerals operation.
 21 Q In 1987, what does Mr Stewart report to
 22 Mr Benninger, who I am assuming was either another
 23 customer or a potential customer that he was looking to
 24 evaluate?
 25 A Well, we'll pull out the important parts.

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1 "Roger Miller of Windsor Minerals has asked
 2 that I write to ... confirm that we have been using
 3 Windsor ... talc for a number of years."
 4 Q And --
 5 A Carry on.
 6 Q I'm sorry, I didn't mean to interrupt you.
 7 They've been evaluating the talc for Johnson
 8 & Johnson; is that --
 9 A Yes.
 10 "Our first project with Windsor was opened in
 11 September 1971."
 12 Which would be 16 years previously.
 13 "Since that date we have continuously
 14 monitored composite samples for Windsor using
 15 transmission electron microscopy, the most sensitive
 16 technique for fine asbestos fibers."
 17 Q Cutting to sort of the chase, as we say it --
 18 A Yeah.
 19 Q -- what does Mr Stewart say about their
 20 collection of evaluations of Windsor talc through the
 21 15 years of evaluating that talc, starting in September
 22 of 1971 and as of the date of the letter in May, 1987?
 23 A Well, in the second paragraph he states:
 24 "Throughout this entire period I can only
 25 recall two occasions on which some suspicious material

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1 was detected. The first involved possible chrysotile
 2 contamination in an air sample and the contamination
 3 source was subsequently pinpointed as a deteriorating
 4 clutch in some mechanical equipment".
 5 Q And let me stop you there.
 6 You were asked a number of questions by
 7 Mr Panatier about McCrone and its reporting.
 8 What does McCrone itself communicate to this
 9 outside third party about the status of their testing
 10 for the sample that showed some chrysotile?
 11 A It said that they believe they did find some
 12 chrysotile, and it was likely to not have come from the
 13 talc, but from a piece of equipment in the facility.
 14 Q What does he say about the second occasion in
 15 which they found suspicious material in the talc?
 16 A "The second occasion was so novel that it was
 17 written up in our publicity brochure published around
 18 ... 75-76."
 19 He encloses a copy.
 20 "Suffice ... to say that amidst mutterings
 21 ... [that] 'that inspector is no longer with us', the
 22 Illinois EPA wrote to Windsor Minerals to the effect
 23 that they were satisfied that Windsor's product is free
 24 of asbestos. That has always been our opinion and
 25 concludes to be -- continues to be our opinion based on

Page 1167 1 over 15 years of closely examining this product." 2 Q So, in addition to the information that McCrone 3 was providing to Johnson & Johnson about the lack of 4 asbestos in the Windsor talc, what were they reporting 5 to unaffiliated companies regarding that same matter? 6 A They gave a summary of their results in the 7 previous 15 years that stated they had not found 8 asbestos in the Windsor talc used by Johnson & 9 Johnson's baby products. 10 Q So any implications to the contrary would be 11 inaccurate. Would you think that would be correct? 12 A That is what is implied in this letter, yes. 13 Q Okay. 14 We've talked about mines. We've talked about 15 ore. We've talked about the product. Let's talk a 16 little bit more about finished talc testing. 17 You described something called "bulk 18 testing". What does that mean? 19 A Bulk testing is to evaluate the talc samples 20 before they're packed into little half pound 21 containers. 22 So it's the bulk material before it's 23 shipped, or when it's shipped to the factory for 24 filling into containers. 25 Q Does the company get from the supplier any	Page 1169 1 Q How long was that the process, or how long has 2 that been the process? 3 A Essentially, ever since the Vermont mine was 4 opened and shipping product. 5 Q How often were material analysis reports 6 generated? 7 A Generally, every two weeks. 8 Q I'm going to show you what I've marked as 9 number 235. 10 (Exhibit 235 marked for identification) 11 What is this? 12 A It is a certificate, Material Analysis Report, 13 which is an analysis of the product. 14 It's the vendor Cyprus Minerals is describing 15 Windsor 66 talc, which is the talc used in Johnson's 16 baby products, and they describe their analysis, their 17 assay for various important factors, such as moisture, 18 acid solubility, magnesium, color, bulk density, its 19 degree of fineness, amounts for arsenic, heavy metal, 20 water, water soluble iron, and assay for asbestos. 21 Q On this particular one, what does it reflect 22 about asbestos? 23 A In this particular one, the specification 24 limits are none detected, and none are detected. 25 Q It shows that the laboratory report was
Page 1168 1 confirmation that the material is in fact in compliance 2 with the specification as it relates to this bulk 3 sampling? 4 A Yes, the company is required to receive from 5 the supplier a regular audit to demonstrate absence of 6 asbestos in the bulk sampling. 7 MS FROST: Can we go off for just a second? 8 I'm missing a document. 9 (Off the record at 1:17 pm) 10 (On the record at 1:18 pm) 11 BY MS FROST: 12 Q For the bulk testing, did that relate to rail 13 cars? 14 A Yes. 15 Q And why were you testing rail cars? What was 16 the relationship between a rail car and talc? 17 A Okay. Talc is shipped from the mine in Vermont 18 ground after being held in silos in rail cars, and it's 19 shipped for filling in the factory in Georgia. 20 Q In connection with filling the rail cars, did 21 the company receive any sort of material analysis 22 report from the supplier related to those rail cars? 23 A Yes. It's a requirement to supply a statement 24 ensuring the compliance to the specification for the 25 shipment.	Page 1170 1 reviewed by someone. 2 Who would have reviewed this material? 3 A It would have been reviewed by the -- this is 4 actually signed by the Johnson & Johnson Products 5 Company in Royston, Georgia. So they've obviously 6 checked it, and before it would be shipped, it would be 7 reviewed by the laboratory in Vermont. 8 Q Does it have an indication for whether -- what 9 to do with the product? 10 A It says it's -- the material conforms to 11 specification and it's accept or not accept, and it's 12 ticked accept. 13 You can accept this product. 14 Q Rather than go through every single such 15 document, have you seen documents like this for 16 shipments other than number 235? 17 A I've seen very, very many, yes, yes. 18 Q All of them generally the same sort -- 19 A All of them generally the same. All of them 20 with a summary which says the product conforms and it 21 may be accepted, yes. 22 Q We do product testing, we do rail car testing. 23 Did Johnson & Johnson also have any sort of a process 24 to do testing regarding asbestos in a more global 25 sense?

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1 That apparently was a very poor question.

2 A It was.

3 Q It's late in the day.

4 A Try again.

5 Q We'll try that one again.

6 Did Johnson & Johnson have any other program

7 for the testing of asbestos or monitoring of asbestos

8 related to the talc?

9 A Yes.

10 Q And what was that?

11 A Certainly in the early 1970s, the decision was

12 taken in the company that the quality standards that

13 were applicable in the United States should apply to

14 every country around the world where consumers would

15 buy Johnson's Baby Powder or Johnson's talc products.

16 And so to initiate that, a project was

17 undertaken on pretty well an annual basis whereby

18 overseas affiliates from Europe, Africa, Far East,

19 Latin America, would send regular -- send a sample of

20 their finished product talc, as purchased from the

21 local store, to New Brunswick for evaluation for

22 quality and purity.

23 Q I'm going to hand you what I've marked as

24 number 235.

25 MS KAGAN: 236.

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1 MR PANATIER: I thought the last one was 235.

2 MS FROST: I'm going to hand you what I have

3 marked as number 236.

4 (Exhibit 236 marked for identification)

5 Q What is that, sir?

6 A This is a report entitled Johnson & Johnson

7 Worldwide 1975 Talc Monitoring Program.

8 Q And is that the program that you were just

9 describing for us?

10 A It is, yes.

11 Q What is the frequency with which this talc

12 project was done?

13 A For most of about 25 years, it was done

14 annually. I think there may have been a couple of

15 years when it was skipped for a year, but pretty well

16 annually over a period of 25 years.

17 Q And what was the finding of the annual report

18 over the course of that 25 years?

19 A Over that time, and this is taking many, many

20 talc samples from all over the world, in no case did

21 the company ever find asbestos in any of the Baby

22 Products Company products.

23 Q Having found no asbestos in those products over

24 that period of time, what conclusion did Johnson &

25 Johnson reach regarding the asbestiform mineral content

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1 of the talcs that it was using in baby powder and other

2 cosmetic powders?

3 A It concluded that, on a global basis, there was

4 no asbestos contamination in any of the talcs used in

5 the Johnson's products around the world.

6 Q Let's summarize. We've talked about 1946

7 through some period of time, and the company testing.

8 What was the company's conclusion, based on

9 the testing that you are able to document going back

10 into the '40s and '50s?

11 A Going back into the '40s, '50s certainly into

12 the '60s, '70s, and then the worldwide monitoring

13 program '75 onwards, right up to 2000 and beyond, many,

14 many hundreds of talc samples were made, and in no case

15 was asbestos found in any of the talc samples.

16 Q Well, then let's turn to another subject.

17 Let's talk about some of the researchers who were

18 looking at talc in the early 1970s.

19 You are familiar with a gentleman by the name

20 of Dr Lewin?

21 A Yes, I am.

22 Q Who was Dr Lewin?

23 A Dr Lewin was a researcher based in New York and

24 he was commissioned by the Food and Drug Administration

25 to evaluate talc samples in the United States.

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1 Q Did Dr Lewin ever work for Johnson & Johnson,

2 to your knowledge?

3 A He did not.

4 Q I'm going to hand you document number 237.

5 (Exhibit 237 marked for identification)

6 And this -- are you familiar with this

7 document?

8 A I've seen this before, yes.

9 Q And what is this?

10 A This is a report dated August 11, 1972. It's a

11 meeting between Food and Drug Administration

12 representatives, of which there are six named, and

13 consumers -- or, sorry, companies selling consumer

14 products to the industry. So from the industry,

15 including Johnson & Johnson, others, McCrone

16 Associates, Gillette, Whittaker Clark & Daniels, Avon

17 Products, the Mennen Company, Cheesbrough-Pond's, and

18 Dr Lewin himself was there.

19 Q Why was Johnson & Johnson and its industry

20 colleagues meeting with the FDA to talk about Dr Lewin?

21 A Well, Dr Lewin, as I said, had been given the

22 project to take a look at products on the US market

23 for -- to check whether or not there was asbestos

24 present.

25 Q And how many products do you understand that he

Page 1175 1 tested? 2 A Almost two hundred. I think it was 192 or 3 thereabouts. 4 Q Of those, how many products by Johnson & 5 Johnson did he test? 6 A As I recollect, there were 11 that he'd tested. 7 Q And in his initial testing, how many of those 8 11 did he report that he had found a percentage of 9 asbestos? 10 A He thought he'd found asbestos in seven of 11 those, as I recollect. 12 Q Did Johnson & Johnson agree or disagree with 13 him on that finding? 14 A They totally disagreed for the simple reason 15 that it did not reflect the testing that Johnson & 16 Johnson had done and other laboratories had done over 17 the previous few years. 18 Q Because of that, did -- is that what 19 precipitated the meeting with the FDA? 20 A Yes, yes, and it was concern not just in 21 Johnson & Johnson, but with other companies that Dr 22 Lewin's results did not reflect reality. 23 Q When you say that, tell us about the memorandum 24 of the meeting with Dr Lewin and the FDA. 25 What does it say that Dr Lewin reported in	Page 1177 1 A Yes. What Dr Nashed stated was that Johnson & 2 Johnson: 3 "... reported work they had done on a J&J 4 product which Dr Lewin reported as having chrysotile. 5 Dr Nashed reported that J&J scientists (Dr Stewart and 6 Mr Rolle supervised the analyses) had examined a 7 portion of the very same sample that Dr Lewin had 8 analyzed and found no detectable chrysotile. They 9 reportedly used the following techniques, petrographic 10 analysis, electron microscopy, electron diffraction, 11 powder camera x-ray, scanning x-ray and step scanning 12 x-ray ... Each sample was analyzed for chrysotile and 13 no detectable amount was found". 14 Q The conclusion of this memo from the FDA is 15 reflected in the final paragraph. 16 Can you tell us what the conclusion of the 17 meeting was, as reported by Dr Wenninger? 18 A It simply states: 19 "There was no disagreement between FDA and 20 industry scientists present at this meeting about the 21 potential safety hazard that the presence of asbestos 22 in talc containing cosmetic products poses to the 23 consumer". 24 Q Does the document also indicate that Dr Nashed 25 represented to the FDA that analytical data would be
Page 1176 1 connection with his technique for having identified 2 what he thought was chrysotile? 3 A Yeah. Well, Dr Lewin was using x-ray 4 diffraction as a means of detecting chrysotile and 5 tremolite, which he described as two species of 6 asbestos in the talc samples analyzed. He found other 7 material species that he thought did not interfere. 8 So he was using a technique of x-ray 9 diffraction to try to identify chrysotile. 10 Q Was there a discussion at this meeting about 11 whether electron micrographs reflected talc in the -- 12 reflected asbestos in the talc of the products that had 13 been evaluated? 14 A Well, the discussion centered around the x-ray 15 diffraction pictures or results and it was pointed out 16 to Dr Lewin that x-ray diffraction would not 17 necessarily detect asbestos material as a single test 18 method. 19 Q Now, Dr Nashed attended this particular meeting 20 on behalf of Johnson & Johnson, did he not? 21 A He did, yes. 22 Q And what did he report to the FDA regarding the 23 work that had been done on Johnson & Johnson products, 24 the ones that are the same that Dr Lewin had reported 25 as having contained chrysotile?	Page 1178 1 made available? 2 A It does. 3 Q And what does it say in that connection? 4 A It said: 5 "Dr Nashed said that J&J would make all 6 analytical data on the analyses of their talc samples 7 available to FDA on a non-confidential basis in the 8 very near future". 9 Q Now, Dr Lewin himself had something to say 10 about the accuracy of his findings, did he not? 11 A He did, yes. 12 Q I'm going to hand you what I've marked as 13 number 238. 14 (Exhibit 238 marked for identification) 15 A Yes. 16 Q Have you seen this before? 17 A Yes, I have, yes. 18 Q And what is this? 19 A Well, this is a letter to The Wall Street 20 Journal from Professor Lewin at New York University and 21 he -- it's headed Asbestos Report. He -- Dr Lewin 22 states: 23 "I wish to make a small correction to ... 24 [the] generally accurate article that appeared on 25 February 26, dealing with the FDA's concern over the

Page 1179 1 possible health hazard posed by the presence of large 2 amounts of asbestos-type impurities in cosmetic 3 powders". 4 Q What did he have to say specifically as it 5 related to his findings on Johnson & Johnson's powder? 6 A "In the article referred to, I was erroneously 7 quoted as having reported that Johnson and Johnson's 8 talcum powder contained 2 ... to 3% asbestos. In 9 actual fact, I reported that of 11 samples of the 10 products of this company, I found no asbestos in nine 11 of the samples, and [in] the other two samples fell 12 into the inconclusive category described above. These 13 are -- results are not seriously at variance with those 14 reported by investigators retained by the company." 15 Q What was the expert disagreement as it related 16 to Dr Lewin's classification of minerals as having been 17 chrysotile, to the extent that you know? 18 A I think what came out of the meeting and the 19 dialogue and discussion afterwards was that Dr Lewin 20 realized, as did many other people after the meeting, 21 that the method of differential x-ray analysis was not 22 specific to detect asbestos, and that you need to go on 23 and do further testing to confirm whether or not that 24 result is the case. 25 And in the case of chrysotile, it is well	Page 1181 1 What does he conclude at the end of the day 2 in his reporting about the evaluations he's made of the 3 various cosmetic talc products? 4 A Yes. In point 7 he states: 5 "Most of the commercial talcs tested are free 6 of any detectable amount of any of the asbestiform 7 minerals, according to the criteria enumerated above. 8 Thus, there appears to be an adequate supply of talc 9 for which there is no ambiguity about the absence of 10 chrysotile or tremolite. In about 10% of the samples 11 ... there appear[s] to be definitely detectable amounts 12 of either chrysotile or tremolite present". 13 Q He has a key that indicates the products, and 14 if you look, numbers 29 and 30 -- 15 A Thank you. 16 Q -- are Johnson & Johnson? 17 A Yes. 18 Q And then if you go a few pages further on, 19 numbers 131, 2, 3, 4, 5, 6, 7 and 8 are also Johnson & 20 Johnson products; correct? 21 A They are, yes. 22 Q And if you turn to the results in the back 23 where he has the listing of his final report results, 24 what does it show for numbers 29 and 30, which are the 25 two Johnson & Johnson products first listed?
Page 1180 1 recognized that the x-ray analysis confuses chrysotile 2 with a harmless mineral called chlorite, which is 3 commonly found associated with talc. 4 Q I think you've mentioned chlorite before. What 5 is chlorite? You said that it was basically harmless? 6 A It is. It's a magnesium silicate with a 7 calcium atom on there. So it's very similar to talc. 8 It's totally innocuous, quite safe, but it's 9 occasionally found in association with talc. 10 Q And what did you tell us earlier was the 11 chemical description of talc? 12 A Magnesium silicate. 13 Q I'll hand you what I have marked as number 239. 14 (Exhibit 239 marked for identification) 15 This is, I believe, the final report of Dr 16 Lewin. 17 Have you seen this? 18 A I think I've seen something similar, yes. 19 Q Okay. 20 Let's take a look if you will turn to the 21 third page of the document. Whose is the signature? 22 A SZ Lewin. Yes, Professor Lewin. 23 Q In connection with the report that Dr Lewin 24 made in July of '73, let's look at the very last 25 paragraph on page 3 in his Summary.	Page 1182 1 A He's listed chrysotile tremolite as 2 non-detected. 3 Q For both of those? 4 A For 29 and 30. 5 Q Then if we turn over to the listings for the 6 remaining products, numbers 131 through 138, what did 7 he ultimately conclude? 8 A Right, I'm missing those pages. They're out of 9 order. 10 Q Here, you can use this one. 11 A Okay. I've got them now. Yeah, okay. 12 131 for tremolite, he describes as trace in 13 sample 131, but in 132 down to 140, non-detected. 14 And for chrysotile, he describes non-detected 15 from 131 down to 140. 16 Q So at the end of the day, in connection with 17 the testing that Dr Lewin did in the early 1970s, what 18 was the conclusion about the presence of asbestos in 19 the Johnson & Johnson product? 20 A The company's conclusion was that there was no 21 asbestos in the product. 22 Q What about Dr Lewin's conclusion? 23 A Dr Lewin simply stopped at the point where he 24 noted tremolite in one sample, but he'd not defined 25 whether it was asbestos tremolite or not asbestos

Page 1183 1 tremolite. 2 Q Did Dr Eiermann at the FDA have any comments 3 regarding Dr Lewin's findings? 4 A There were -- well, there were regular meetings 5 between consumer companies, including Johnson & 6 Johnson, and FDA, and Dr Eiermann certainly summarized 7 some of those meetings, yes. 8 Q I will hand you number 240. 9 (Exhibit 240 marked for identification) 10 What is number 240? 11 A It's a letter from Heinz Eiermann, dated 12 October 1, 1973. 13 Q And remind us, who is Dr Eiermann? 14 A At that time in '73, he was with the Food and 15 Drug Administration. 16 Q And what does he report to us in connection 17 with the Summary and Comments on the Analyses for 18 Asbestos in Cosmetic Talc Products? 19 A Well, it's a long memo. We'll just focus on a 20 couple of sentences. 21 But it comments on the work by following 22 investigators, of which Dr Lewin is one, and Dr Schulze 23 from the FDA was there, and they summarize: 24 "There is poor correlation between Dr Lewin's 25 results and the findings of the other investigators".	Page 1185 1 Dr Lewin didn't know what he was doing. 2 His results were basically not valid. 3 Q In addition to Dr Lewin, we talked about 4 someone called Dr Langer, or you spoke with Mr Panatier 5 about a Dr Langer. 6 Who was Dr Langer? 7 A He's a researcher at Mt. Sinai in New York. 8 Q Okay, and what was his relationship to Johnson 9 & Johnson? 10 A I don't believe he'd ever worked for Johnson & 11 Johnson. He'd done some independent research of his 12 own on talc analyses. 13 Q And in connection with the analysis that he 14 did, what was the report of what he found initially? 15 A Again, he claimed with one of his colleagues 16 that -- he claimed to have found asbestos in Johnson & 17 Johnson, and indeed in other products on the US market. 18 Q And in connection with the work that he did, he 19 did two sets of analyses, did he not? 20 A He did, yes. 21 Q All right. He did one in the early '70s? 22 A Yes. It was '71, I think. 23 Q And then some later testing in '76? 24 A He published in '76, yes. 25 Q All right.
Page 1184 1 Q And in the next paragraph, what does he report 2 as the reason for those discrepancies? 3 A He said: 4 "The reason for these discrepancies may be 5 found in Dr Lewin's own notes of July 10, 1973, in 6 which he stated: 'the chrysotile that I found in 7 commercial talcs is generally different in significant 8 respects from the chrysotile that occurs as massive, 9 fibrous growths in veins ... [of] serpentine rocks. 10 That is, the former has [a] diffraction peak ... that 11 may differ from the latter by as much as point 0.2 A 12 ... It is therefore -- it is more reactive toward 13 dilute acids; it shows a different appearance under the 14 microscope; and [in] its ... [differential thermal 15 analysis] endotherms and exotherms are shifted relative 16 to those of the latter (and apparently diminished)'. 17 He further states that 'the analytical method (x-ray 18 diffraction) gives a reproducibility of plus or minus 19 2% to 3% average deviation in replicate determinations 20 on the [very] same sample, but different samples from 21 the same bulk container are found to vary as much as 22 200%". 23 Q All right. In plain English, what is that 24 telling us, sir? 25 A Well, it's telling me that the FDA thought that	Page 1186 1 In connection with the 1971 testing, I have 2 marked number 241. 3 (Exhibit 241 marked for identification) 4 After the initial reports concerning Dr 5 Langer's findings, what did he later report concerning 6 what he had claimed to find in connection with baby 7 powder? 8 A He claimed to have found -- initially, he 9 claimed to have found asbestos in the baby powder. 10 Q And what did he ultimately report to the news 11 media concerning what he found? 12 A Well, he just says: 13 "Foolishly I sent them a written report after 14 looking at only two samples ... The data were very 15 preliminary in nature ... and ... I may have [been] ... 16 mistaken [in looking at] long talcum fibers for 17 asbestos fibers. They have [very] similar properties". 18 Q Is that the quote from Dr Langer? 19 A That is a letter. I guess he was trying to set 20 the record straight. He wrote a letter to the -- I 21 believe it was The New York Times. 22 Q And in connection with his -- the report of his 23 story, what did he ultimately say about his analyses? 24 It's the next paragraph after the -- 25 A It's very small font.

Page 1187 1 Q Sorry about that. 2 A Very small print. 3 "... Mt. Sinai lab has been actively involved 4 in warning the public of the dangers of inhaling 5 asbestos fibers ... 6 Dr ... Selikoff, who heads the laboratory, 7 has a -- has been a central figure in the controversy 8 over asbestos ... 9 But Langer said [that] the amount of asbestos 10 he saw in baby powder was only 'trace level'." 11 Q What did he say about what he thought about the 12 importance of looking for asbestos in talcum powders? 13 A What he said was the data very preliminary in 14 nature, and: 15 "... what is more, I may have [been] 16 mistaken -- mistaken long talcum fibers for asbestos 17 fibers. They have similar properties". 18 He continued: 19 "It annoys the hell out of me -- there ... 20 [is] a lot more important things than looking for 21 asbestos in talcum powder". 22 Q All right. 23 But, nonetheless, he returned to the issue of 24 looking for asbestos in talcum powder in 1976, did he 25 not?	Page 1189 1 1976, what was the takeaway conclusion of Johnson & 2 Johnson from the work done by Dr Langer in '76? 3 A That he'd found no asbestos in any of the 4 Johnson & Johnson products. 5 Q Was Johnson & Johnson able to obtain the 6 results of the investigation from the FDA related to 7 those products? 8 A I believe so, yes. 9 Q I will hand you what I have marked as number 10 243. 11 (Exhibit 243 marked for identification) 12 Is this is a 1976 document from the FDA 13 regarding the evaluation of asbestos minerals in field 14 activity surveillance? 15 A Yes. 16 Q What does "field activity surveillance" mean? 17 A It's a project that FDA has from time to time. 18 They'll go into stores and take samples of many 19 different types of products, lipstick, nail polish and 20 other products, and they look to ensure that they are 21 safe to the consumer. 22 Q And, again, what was the conclusion based on 23 that evaluation of products and the Johnson & Johnson 24 products? 25 A Well, they looked at over -- almost 200
Page 1188 1 A He did, yes. 2 Q In 1976, what do you understand Dr Langer to 3 have evaluated? 4 A He claimed to have evaluated several products 5 on the US market and published a report as to what he 6 believed that they contained asbestos. 7 Q Once again, there was an article in The New 8 York Times concerning his results, was there not? 9 A Correct, there was. 1976, yes. 10 Q In 1976, when they reported that ten of 19 body 11 and baby powders had been found to contain asbestos 12 fibers -- I have handed you document number 242. 13 (Exhibit 242 marked for identification) 14 And this is a copy of the article at The New 15 York times, what was his conclusion about the products 16 in which he did not find asbestos? 17 A "The products that the researchers found 18 uncontaminated with asbestos fibers were Ammen's 19 Medicated Powder, Avon Bird of Paradise Beauty Dust, 20 Diaperene Medicated Body Powder; [and] two Johnson's 21 Baby Powders (... made here and one in Britain), 22 Johnson's Medicated Powder, Mennen Bath Talc, Yardley 23 After Shave Powder and Yardley Original Body Powder". 24 Q Okay. 25 So of the products evaluated by Mt. Sinai in	Page 1190 1 products, I think, yeah. They looked at almost 200 2 products, including some Johnson & Johnson products, 3 and the conclusion -- give me a second ... 4 Looking for tremolite fibers, which would be 5 asbestos fiber, or chrysotile, which would be an 6 asbestos, they found none detected in Johnson's Baby 7 Powder. 8 Several samples of Johnson's Baby Powder, 9 they found none detected. 10 Q Okay. 11 And is this is the Langer report or the Lewin 12 report? 13 A It's 176 samples. So let's have a look ... 14 This is -- yes, this is a review of Dr 15 Lewin's data. Yes. 16 Q Okay. You may set that one aside. 17 Other than the work that was done with that, 18 the Langer materials received quite a bit of coverage, 19 did they not? 20 A They did, yes. 21 Q And, as with other issues with the FDA, the 22 CTFA arranged for a meeting with Mt. Sinai, did they 23 not? 24 A They did, yes. 25 Q And did that include members of the staff of

Page 1191 1 Environmental Science Laboratories, Dr Langer and his 2 cohort, Dr Rohl? 3 A It did, yes. 4 Q In connection with the materials that were 5 reviewed by Dr Langer and Dr Rohl, I have handed you 6 number 244. 7 (Exhibit 244 marked for identification) 8 What is this? 9 A It's a memorandum of a meeting, March 22, 1976, 10 at Mt. Sinai School of Medicine, New York, between 11 members of staff of the Environmental Science 12 Laboratories at Mt. Sinai, Dr Langer and Dr Rohl, and 13 two people from Division of Cosmetics Technology of 14 FDA, Mr Wilson and Mr Yates. 15 And they were discussing the topic of 16 Analytical Methodology for the Detection and 17 Determination of Asbestos Minerals in Talc. 18 Q Right. 19 Now, in connection with this meeting, and I 20 apologize, I think I described it as a meeting with 21 FDA -- this is actually a meeting with Mt. Sinai -- the 22 ten products that Dr Langer had done analyses on and 23 reported the presence of tremolite and anthophyllite, 24 those did not include a Johnson & Johnson product; is 25 that correct?	Page 1193 1 Q Is this 245? 2 A Yes. 3 (Exhibit 245 marked for identification) 4 Q What is this, sir? 5 A The first page is a response from the Food and 6 Drug Administration and it is in response to a 7 Citizen's Petition. 8 Q And what is a Citizen's Petition, as you 9 understand it? 10 A Putting it simply, it means that any citizen 11 from the United States can talk to Food and Drug 12 Administration if they have a concern or an issue on a 13 food, a drug or a cosmetic, and they can require FDA to 14 come to an opinion as to whether that concern is valid 15 or not valid. 16 Q And what did the Citizen's Petition in 1983 17 request of the FDA in connection with cosmetic talc? 18 A Well, the response to Mr Douillet: 19 "This responds to your November 8, 1983, 20 petition requesting that cosmetic talc be labeled with 21 an asbestos warning statement, information on asbestos 22 particle size and the proportion of talc impurities in 23 the product". 24 Q What did the FDA conclude was the appropriate 25 thing to do in connection with the citizen request that
Page 1192 1 A They did not include a Johnson & Johnson 2 product. 3 Q In fact, the document itself lists the ten 4 products which he had evaluated. 5 Can you tell us what those were? 6 A They were other products on the US market. 7 Cashmere Bouquet Body Powder; Rosemary talc; Brut for 8 Men; Air Spun Face Powder from Coty; Baby talc from 9 Bauer and Black; Black Label, Yardley; After Shave 10 Talc, English Leather; ZBT Baby Powder; Invisible Talc 11 from Yardley; and Shave talc from Mennen. 12 Q In addition to the Langer work and the FDA 13 analyses, did -- was there ever any analysis or 14 interaction between the FDA and whether or not there 15 was a hazard associated with the asbestos contamination 16 in cosmetic talc? 17 A Yes, I think it's fair to say that the industry 18 selling cosmetic talc was keen to ensure that the 19 product was safe, and they were -- there are reports of 20 several meetings between industry representatives and 21 Food and Drug Administration, FDA. 22 Q In 19 -- are you familiar with a 1983 Citizen's 23 Petition asking that a warning be placed on cosmetic 24 talc? 25 A Yes, I have seen that Citizen's Petition, yes.	Page 1194 1 a warning be placed on cosmetic talc? 2 A Well, the response covers over -- almost an 3 inch of documentation, but they basically summarized 4 having discussed how they had taken their approach, and 5 what approach they had taken to come to a decision. 6 And they summarized it by saying that: 7 "However, your petition has not persuaded us 8 that cosmetic talc that is presently being produced 9 contains sufficient amount of asbestiform minerals -- 10 sorry, contains significant amount of asbestiform 11 minerals". 12 Q What does it say about the FDA's evaluation of 13 information in the early 1970s, as they reported to the 14 citizens? 15 A Well, what they state is: 16 "In addition, FDA surveillance activities 17 that were conducted in the latter portion of the 1970s 18 show that the quality of cosmetic talc had 19 significantly improved, and that even when asbestos was 20 present, the levels were so low that no health hazard 21 existed". 22 Q Understanding what the FDA said about testing 23 in the early 1970s, if you look back on the first page, 24 the first paragraph explains what it was that they did. 25 And what does the FDA say that they did in

Page 1195 1 connection with the evaluation of the health status of 2 cosmetic talc? 3 A Well, they go on, and particularly in the last 4 paragraph, that they received several such reports and 5 they evaluated them by looking at the analytical 6 results and discussed how questionable they were: 7 "... [The] assessment proved to be correct 8 because many questions were subsequently raised about 9 results reported in the literature in the early 1970s 10 ..." 11 And they give some references, and: 12 "Because of the questionable nature of the 13 analytical results, the agency was not able to assess 14 ... [the reliability of] the levels of asbestiform 15 minerals in cosmetic talc then ... [on] the 16 marketplace." 17 Q Turning to the second page, what do they report 18 in the second paragraph about the actions that it took? 19 A They stated that -- took these actions: 20 "... many cosmetic manufacturers began to 21 analyze their talc for asbestiform minerals as part of 22 their quality control programs ... talc suppliers began 23 to sell higher purity talcs to the cosmetic industry. 24 By 1976, asbestos analytical methodology was 25 sufficiently developed that the Cosmetic Toiletry and	Page 1197 1 Q In connection with the relevant data, did the 2 FDA also look at the risk of exposure in relationship 3 to environmental exposures? 4 A I'm sure they did. This is over an inch thick 5 of documentation. So give me a minute. 6 Q Okay. 7 Here's an easier question: what do you 8 understand to have been their conclusion about the 9 comparison of a worst case exposure to asbestos from 10 cosmetic talc as it relates to a lifetime environmental 11 exposure? 12 A As I recollect, and I'm not going to read 13 several hundreds pages of documentation, but as I 14 recollect, it was of no consequence. 15 There's just no relationship. So it was not 16 of significance. 17 Q At Johnson & Johnson -- you can set that aside. 18 A Thank you. 19 Q Yes. 20 At Johnson & Johnson, who all evaluated the 21 published scientific literature concerning talc? 22 A It would say several people. Certainly, there 23 was a Research Department, a Medical Department, 24 several qualified MDs, toxicologists. 25 Q We talked about the Johnson & Johnson process
Page 1196 1 Fragrance Association (CTFA) could issue a 2 specification (copy enclosed) for cosmetic talc. [The] 3 ... specification required that such talc be free of 4 fibrous amphibole (e.g., asbestos in the form of 5 asbestiform tremolite) using a CTFA method of analysis 6 that is capable of detecting 0.5 per cent of amphibole 7 asbestos. This specification contributed to the 8 continued improvement of cosmetic talc quality". 9 Q Is the FDA referring in that discussion to the 10 CTFA asbestos testing standard that we talked about 11 earlier? 12 A I believe they are, yes. 13 Q Does the FDA indicate that it has taken into 14 consideration that and other issues since the 1970s to 15 evaluate the safety of such talc? 16 A Yes. They indicate that they've certainly 17 followed the issues and keep an eye on things. 18 Q So what was their final conclusion? 19 A In their final conclusion, having reviewed all 20 the data that they have found in the literature with 21 spoken with experts, they simply conclude that: 22 "For all of these reasons, your petition is 23 denied. This denial is without prejudice to the future 24 filing of a petition on this matter, accompanied by all 25 relevant data in support of the petition".	Page 1198 1 of hiring outside experts to assist with talc issues. 2 Did they use that sort of outside expertise 3 for anything other than talc? 4 A Yes. That's certainly not uncommon in many 5 corporations and companies that you look at outside 6 help where you think someone else has got a different 7 skill set. Yeah, certainly. 8 Clinical trials for one. You're not 9 necessarily going to do those in-house. Tests on 10 product for skin irritation. Those are all done 11 outside. 12 Q One of the issues that you talked with 13 Mr Panatier about yesterday had to do with publications 14 in the literature and Johnson & Johnson's involvement 15 with its outside experts and others in connection with 16 that. 17 Do you remember those questions? 18 A Yes, I do, yes. 19 Q Right. 20 One of the things that we talked about 21 yesterday had to do with Colorado School of Mines' 22 discussion of a paper at the Bowling Green -- from 23 Bowling Green University. 24 Do you recall that? 25 A I do, yes, yes.

Page 1199 1 Q And document number 188 was something that 2 Mr Panatier showed you and talked with you about that 3 has to do with the Colorado School of Mines' discussion 4 with the Bowling Green people regarding their findings. 5 Now, one of the things that he showed you in 6 that document had to do with the people who went to the 7 meeting, but what he didn't talk to you about was why 8 it was that the Colorado School of Mines had been asked 9 to go and talk with their counterparts at Bowling Green 10 to discuss the findings, as reflected in their article. 11 Can you look at the first page of number 188 12 and read for us, please, what it is that it says there 13 regarding the reason for their visit to discuss these 14 issues with Bowling Green? 15 (Exhibit 188, previously marked, handed to witness) 16 A Well, this letter is from the Colorado School 17 of Mines Research Institute, dated June 8, 1973, and it 18 describes the meeting with Bowling Green University 19 Geology Staff, and what is stated is that: 20 "Since our general observations at the 21 Research Institute -- that's Colorado School of 22 Mines -- relative to asbestiform minerals in talc are 23 such -- are at such high variance -- sorry, such large 24 variance to those reported in the paper, an 25 investigation of the paper was undertaken".	Page 1201 1 may possibly make an identification of anhydrite in 2 talc". 3 Q You spoke yesterday with Mr Panatier about the 4 professional process of meeting with other scientists 5 to go through things that did not seem to be logical in 6 connection with a variety of findings. 7 As it relates to this document, memorializing 8 the meeting between the Colorado School of Mines and 9 the Bowling Green research team, what does it reflect 10 that was discussed amongst the scientists involved in 11 that meeting? 12 A It summarizes what appears to be a very 13 technical discussion, and one of the things about 14 scientists, as I'm sure with lawyers, is that there's 15 general respect for each other, and you have an opinion 16 as to what someone has done, and if you find 17 disagreement, you'll talk about it in a friendly and 18 positive manner. 19 So that basically is the essence of this 20 discussion. 21 Q And let's look at the specific items that they 22 reflect, because Mr Panatier talked with you about the 23 fact that there was a meeting and it made clear that 24 the data could be a serious charge against the product. 25 But let's talk about exactly what the authors
Page 1200 1 Q And how do you interpret that? What does that 2 mean? 3 A What it means is that Colorado School of Mines 4 had been looking at talc samples from many different 5 suppliers, including Johnson & Johnson, and they had 6 never found anything like the numbers that were found 7 by the Bowling Green University group. 8 Q Now, this document goes on to talk about the 9 identification of something called "anhydrite". 10 What is anhydrite? 11 A Well, anhydrite is calcium sulphate. 12 Q And what does the Colorado School of Mines 13 report in this document concerning the significance of 14 the Bowling Green team's finding of anhydrite in 15 connection with the materials that it evaluated? 16 A Well, calcium sulphate or anhydrite is a very 17 simple material, and what they say is that: 18 "The mineral [calcium sulphate] anhydrite ... 19 is ... reported by X-ray diffraction for all except 20 three of the samples. We have never found anhydrite in 21 any talc samples examined at the Research Institute. 22 Furthermore, from the standpoint of geological 23 occurrence and rock genesis, ... [we] would not expect 24 to find anhydrite associated with talc. With these 25 factors in mind, a study was made to determine how one	Page 1202 1 and Colorado School of Mines discussed in connection 2 with those findings. 3 A Essentially, one of the outcomes of that 4 professional meeting stated that: 5 "None of the three authors had any previous 6 experience with talc mineralogy, but they decided ... 7 it would be a suitable subject for a paper. Our 8 discussions yielded the following significant results: 9 All three authors readily admitted ... they 10 did a 'rush job'. About 2 weeks was spent in gathering 11 data for ... [this] paper". 12 Q What else does it show? 13 A It says that: 14 "They agreed that asbestiform minerals cannot 15 be identified by X-ray diffraction. X-ray diffraction 16 is capable only of identification of a mineral group 17 which contains both asbestiform and non-asbestiform 18 minerals". 19 Q What else did the Bowling Green researchers 20 agree with the Colorado School of Mines about in 21 connection with the evaluation of the quality of 22 research done to support their paper? 23 A "They admitted that they did not adequately 24 check the 'talc edge effect' which could lead to ... 25 misidentification of talc plate edges as [an]

Page 1203 1 asbestiform mineral by microscopic analysis." 2 Q Now, that's not something Mr Panatier talked 3 with you about; correct? 4 A No. I mean, basically what they're saying is 5 if you have the plate set on its edge, it would look 6 long and thin, but they didn't separate that out. 7 Q And does the document reflect that there were 8 several other areas of scientific discussion concerning 9 the quality of the research? 10 A Yes. They agreed that they had made several 11 errors. They agreed: 12 "They did not take into account the possible 13 presence of chlorite in the talc and could well have 14 misidentified chlorite as serpentine (which [would] of 15 course include ... chrysotile)". 16 They also admitted that: 17 "Relative to the identification of anhydrite, 18 they admitted ... they probably misidentified ... [the] 19 k-beta talc peak" that's on the machinery. 20 And, secondly: 21 "They counted only 100 grains for their 22 quantitative microscopic analyses. Though their data 23 is presented in terms of volume ... We pointed out ... 24 the statistics involved are totally unacceptable". 25 Q Does that indicate to you that the discussion	Page 1205 1 read to the jury those portions that Mr Panatier did 2 not ask you about and tell us what is your 3 understanding of what was being asked to be 4 accomplished in connection with the review of Dr 5 Henderson's work? 6 A Sure. Just as a follow up, it was mentioned 7 that Mr Henderson was looking at electron microscopy 8 where the particle is shadowed with platinum deposited 9 under vacuum, and the final sentence is important: 10 "Mr Henderson claims that this pattern was 11 specific to talc and anthophyllite only". 12 Then it goes on to state that: 13 "Our information was that these types of 14 patterns were a function of any cleavable material". 15 Q And what was the significance of the finding 16 that the patterns were the same as on any cleavable 17 material? 18 A Well, what it meant was that any cleavable 19 material would not necessarily include anthophyllite or 20 talc, so that the claim that Mr Henderson made that the 21 pattern was specific to talc and anthophyllite would 22 not be valid. 23 Q Is that an appropriate or an inappropriate view 24 of how to deal with a scientific disagreement? 25 A I think the summary here is that people are
Page 1204 1 between the Colorado School of Mines and the Bowling 2 Green researchers was, as implied by Mr Panatier, some 3 sort of a threatening meeting, or would you 4 characterize it in some other way, and if so how? 5 A No, I think, as I've said earlier, that 6 generally when scientists sit down and talk to each 7 other, there may be an occasion for disagreement, but 8 the outcome of this meeting is that the Bowling Green 9 scientists realized that they had not understood the 10 job properly and had not given accurate readings and 11 results. 12 Q All right. You may set that aside. 13 Mr Panatier, also talked with you 14 documentation number 189, which is a Confidential 15 Talc -- UK Work Status Report. 16 (Exhibit 189, previously marked, handed to witness) 17 And the area that I specifically want to talk 18 with you about is the discussion about the evaluation 19 of Dr Henderson's work regarding cleavage fragments and 20 patterns on cleavagable material. 21 Now, as I understood the questioning from 22 Mr Panatier, it was his impression, at least, that the 23 company was discrediting Dr Henderson generally. 24 Can you review the parts of that document 25 related to the evaluation of Dr Henderson's work and	Page 1206 1 setting out their position and making clear that, in 2 this case Mr Henderson, wasn't accurate in his 3 interpretation. 4 It's a professional dialogue. 5 Q You can set that aside, I believe. 6 Was Johnson & Johnson involved in any way in 7 submitting materials to the NTP? 8 A For evaluation? For -- 9 Q For talc safety? 10 A For talc safety studies? 11 I believe NTP did use talc in a talc safety 12 study, yes. 13 Q And we haven't talked about NTP. What is NTP? 14 A Okay. It's the National Toxicology Program of 15 the United States. It's a division of the US 16 government, who has a responsibility to evaluate the 17 toxicology or safety of many different kinds of 18 materials that are used both in industry -- mostly in 19 industry -- and also just in the environment and around 20 us. 21 Q Okay. 22 Did you personally have any involvement in 23 submitting materials related to talc to the NTP for an 24 evaluation at any point? 25 A I personally did not, no.

Page 1207 1 Q Did Johnson & Johnson submit materials to the 2 NTP for its evaluation of whether to list talc as a 3 carcinogen or a product reasonably expected to be a 4 carcinogen? 5 A Are you talking about documentation? 6 Q Yes, sir? 7 A Not talc samples? 8 I believe Johnson & Johnson was certainly 9 involved in assembling data to support the safety of 10 talc for that particular review. 11 Q What did the NTP conclude in connection with 12 whether or not to list talc as a carcinogen or a 13 product reasonably expected to be a carcinogen? 14 A They concluded that there was insufficient data 15 to list talc as a carcinogen. 16 Q Do you have any idea of what the constituency 17 was of the group of people who were making that 18 decision? 19 A Within the NTP process, the ROC process, the 20 first level is undertaken to nominate a product. It 21 comes from what are called the "staffers". 22 They are relatively junior people in the 23 organization who will pull together a proposal; and at 24 the second review it goes to a higher authority body 25 with more -- more skill set.	Page 1209 1 market, they did extensive studies and showed that in 2 no case were there asbestos materials present in the 3 product. 4 Q In connection with the Citizen's Petition, what 5 did the FDA conclude concerning the need for a warning 6 on cosmetic talc products? 7 A Well, they reviewed all the literature that was 8 technically available in -- up to 1986 and beyond, and 9 they concluded that there was no reason to list a 10 warning on talc products. 11 Q Do you know whether they have revisited that 12 question since 1986? 13 A I believe they have, but I don't have that 14 documentation with me. 15 I believe there has been a more recent 16 Citizen's Petition, but I can't be sure, so I'm not 17 going to comment. 18 MS FROST: Okay. Let's take a five minute 19 break, please. 20 (Off the record at 2:19 pm) 21 (On the record at 2:33 pm) 22 BY MS FROST: 23 Q Dr Hopkins, why is it that the FDA was involved 24 with the evaluation of the safety of cosmetic talc 25 products?
Page 1208 1 But in between times, people may make a 2 submission and provide data information that maybe NTP 3 didn't have at their first evaluation. 4 Q So is this a fairly thoroughly scientific 5 review? 6 A It's a very thorough review. 7 It allows not just industry but consumer 8 groups to present data to NTP as part of their review. 9 Q And, again, at the end of this review, what was 10 the conclusion of NTP regarding whether or not to list 11 talc as a carcinogen or a product reasonably expected 12 to be a carcinogen? 13 A NTP concluded that there was no valid evidence 14 to list talc as a carcinogen. 15 Q In discussion of -- actually, let me move back 16 to the board for a moment. Let's make sure that we 17 have ... 18 So NTP concluded that talc was not a 19 carcinogen? 20 A That's -- 21 Q Or not to be listed? 22 A Not to be listed as a carcinogen, yes. 23 Q What was the outcome of the FDA's analysis in 24 2009 and 2010 as it relates to cosmetic talc products? 25 A Based on their review of products on the US	Page 1210 1 A Well, FDA's role to the American consumer is to 2 ensure that the products that are on the market are 3 safe. 4 FDA has responsibility for -- overall 5 responsibility for cosmetic products. 6 Q Could the FDA require a warning on cosmetic 7 products if it so wished? 8 A If they had valid reason to do so, they could 9 require that warning, yes. 10 Q To date, have they done so? 11 A They have not, no. 12 Q Now, we spoke previously about the NTP. 13 In advance of the NTP's meetings in 2000, was 14 Johnson & Johnson aware that they were going to be 15 reviewing talc as a potential carcinogen? 16 A I'm not aware that that was part of the story. 17 There was no early warning other than the 18 NTP's review, or proposed review in 2000. 19 Q Okay. 20 Did you, as part of the work that you did 21 while you were still at Johnson & Johnson, participate 22 in any specific FDA workshop or other evaluation 23 regarding talc? 24 A Yes. The FDA called a workshop in 1994 in 25 Washington and I was a participant in that workshop.

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1 Q And what did the workshop consider?

2 A The workshop was over two days. It considered

3 two main topics. One was the results of the rat and

4 mouse studies that NTP had conducted to evaluate talc

5 safety by inhalation in rats and mice over a lifetime.

6 Q Let me stop you there. We haven't talked about

7 that. What sort of rat and mouse study did they do?

8 A Essentially, standard toxicology stuff.

9 You dose rats and mice at different dose

10 levels of talc dust, breathable talc dust, and they

11 breathe it in every day of their lives for two years.

12 Q And what did those two years demonstrate in

13 connection with the rat study?

14 A The total summary of the study that was

15 presented by the National Toxicology Program in 1994,

16 both the rats and the mice, was that the talc was not

17 responsible for any cancer causing effects.

18 Q Specifically, did the rat and mouse study

19 disclose any mesothelioma in the test subjects?

20 A They did not see any mesothelioma in rats or

21 mice.

22 Q That is 1994?

23 A It was reported in 1994, yes.

24 Q We've been talking about an awful lot of

25 documents today. You personally attended this

Page 1212

1 particular seminar, but of the documents we have been

2 talking about this afternoon, had you reviewed and have

3 familiarity with those documents prior to your arrival

4 here today?

5 A Yes, indeed. Many times over many years.

6 Q How is that?

7 A Well, as an employee of Johnson & Johnson from

8 '76 and then through as a consultant to 2011, I had

9 occasion to be involved in safety of talc, and part of

10 that was to review those documents as and when the need

11 arose.

12 So I have certainly seen them and I reviewed

13 them over the -- rereviewed them over the past several

14 weeks.

15 Q And speaking of rereviewing, we just talked

16 about the rat and mouse study, but some of the issues

17 that you discussed yesterday with Mr Panatier had to do

18 with outside research that was being conducted by Dr

19 Rubino in Italy.

20 Do you recall that discussion?

21 A Yes, I do, yeah.

22 Q Okay.

23 The implication was that there was something

24 untoward about the actions of Johnson & Johnson in

25 connection with that study.

Page 1213

1 Do you think that's a fair takeaway from the

2 questions yesterday?

3 A That is an interpretation, yes.

4 Q Okay.

5 Now, one of the documents that you were shown

6 yesterday, and I want to go through a series of these,

7 and there's one for which I don't have a number. I

8 didn't write the number down. It's October 10, 1974,

9 Mr Ashton to Dr Hildick-Smith.

10 MR PANATIER: Here it is. 78. No, that is

11 another.

12 We'll figure it out.

13 MS FROST: Okay.

14 MR PANATIER: It was an exhibit; right?

15 MS FROST: It is an exhibit.

16 So I'm going to ask about it and we'll come

17 back with the exhibit number.

18 Q In connection with the discussions for the

19 study that Dr Rubino was doing, there were a series of

20 documents, and I'm going to try to do them in

21 chronological order.

22 Let's look first at document number 192,

23 which is a memo from Dr Gavin Hildick-Smith to Dr

24 Petterson talking about the initial meeting to discuss

25 the scope of the study.

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1 (Exhibit 192, previously marked, handed to witness)

2 Do you remember that?

3 A I remember that, yes.

4 Q Mr Panatier asked you some questions, but he

5 didn't ask you some questions about the discussion on

6 page 2 of that memo that describes what the meeting was

7 about.

8 Can you look for me, please, at the first

9 paragraph there on page 2 of this document and let's

10 talk about what the document reports as the purpose of

11 the meeting?

12 A Well, this document is dated December 12, 1973:

13 "A meeting was held with Professor Rubino and

14 his associate, Dr G Piolato, and it was pointed out

15 that the objective of the epidemiological study was to

16 determine whether the incidence of cancer in the

17 diseased miners was different from that expected in the

18 ... non-mining population in ... [the] adjacent area".

19 Q Let me stop you there.

20 Whose objective does the document seem to

21 reflect that refers to?

22 A Well, Professor Rubino and the people -- the

23 epidemiology experts in Italy.

24 They are keen to understand whether or not

25 there was an issue with incidence of cancer.

Page 1215 1 Q Right. 2 It goes on in the next paragraph. What else 3 does it say about what Dr Rubino's objective was with 4 the study, as explained in this first meeting? 5 A Well: 6 "Prof Rubino will initially obtain the 7 records -- [all] the records of all mining employees 8 from 1945 to 1973 and determine those who have died and 9 the cause of death. In addition, some of the data will 10 be obtained from a matched group of non-miners in an 11 adjacent community. All the data ... will be recorded 12 on a standard form to allow it to be computerized". 13 Q Now, Mr Panatier talked with you about the 14 third paragraph and the fact that it would involve 15 review of epidemiological experts and procurement of 16 optimum data. 17 Based on your understanding of the 18 methodology involved in a study of this nature, how do 19 you interpret that description? 20 A Well, the two paragraphs I've just read 21 indicate that the -- Professor Rubino and the 22 epidemiology contacts in Italy have pretty well decided 23 what appears to be a good protocol to review the data. 24 So they have already set up a nice protocol. 25 Q You may set that aside, sir.	Page 1217 1 Tenovus group will be submitting data on the content of 2 talc in cancerous and normal tissues". 3 Q What is the significance of the description of 4 Dr Rubino and his methodology in your review of this 5 document? 6 A It summarizes that Gavin Hildick-Smith, MD, 7 believed that he was working to the highest standards, 8 using experts in statistics, biometrics, and getting 9 together unassailable facts -- to quote those words. 10 Q Is that a good thing or a bad thing? 11 A That is a good thing. That would be called 12 good science. 13 Q You may set that aside. 14 (Exhibit 197, previously marked, handed to witness) 15 He also showed you this document from 16 October 30, 1974, another -- this one to Dr 17 Hildick-Smith from Mr Ashton, also concerning the 18 Italian talc studies and a visit with Dr Rubino. 19 Now, what Mr Panatier asked you about was the 20 instructions concerning the terms of the talk, but what 21 he didn't ask you about was the following paragraph. 22 Can you read for us from the following 23 paragraph and explain to us the significance of that 24 from your analysis? 25 A Yeah. It discusses that Rubino read his talk
Page 1216 1 Next document I want to talk with you about 2 is also related to the epidemiological study of the 3 cause of death in Italian talc miners. This one is 4 marked as Exhibit 193. 5 (Exhibit 193, previously marked, handed to witness) 6 Dated February 14, 1974. If you will take a 7 look at it and orient yourself. 8 You spoke with Mr Panatier about part of this 9 yesterday, but I would like for you to look at the 10 portion he didn't show you or ask you about on page 2 11 concerning the evaluation of Dr Rubino as a researcher? 12 A Okay. This document is dated February 14, 13 1974, received in Johnson & Johnson March 12, '74, and 14 that particular summary from Dr Hildick-Smith, MD, 15 writing to his colleagues in Johnson & Johnson says, 16 final paragraph: 17 "The impression was obtained from Professor 18 Rubino that he is a meticulous worker concerned with 19 obtaining unassailable facts and [he] is himself not 20 concerned with personal gain from the study. Professor 21 Rubino is consulting with experts in the field of 22 statistics and biometrics and expects to have his study 23 completed so that he can have data available for the 24 fall, 1974, meeting ... held by Dr Selikoff at the New 25 York Academy of Science at which Mr Henderson of the	Page 1218 1 from the Italian draft and the English translation was 2 translated by Stefano and Stefano. 3 "There are some phrases which do not 4 translate into English, but I gather they do not alter 5 the findings or the conclusions. Since October 7 talk, 6 Rubino has an additional 200 case histories, but the 7 results are the same as you have reported earlier." 8 Q So he has continued to compile data; is that a 9 fair understanding? 10 A That is the case, yes, and the period between 11 his talk and when this memo is written, he has got more 12 data from more miners. 13 Q And if you turn to the second page, an 14 analysis, or in conjunction with the discussion by 15 Mr Ashton of the comments that he provided, what does 16 he say was the nature of the comments that he made to 17 the draft of the paper, as presented in this meeting? 18 A His first sentence says: 19 "I have some mineralogical comments which I 20 told to Stefano". 21 And then, as we discussed yesterday: 22 "The first page of the article has to be 23 carefully revised. The mention of two genetic sources 24 of talc and the phrase indicates that talc of dolomite 25 origin has fibrous mineral must be deleted. It is

Page 1219 1 important that Rubino refers only to high grade 2 cosmetic talc to avoid paragenetic material matters." 3 So he's commenting on mineralogical aspects 4 to Dr Rubino. 5 Q He goes on to make comments concerning some of 6 the surprising findings about Dr Rubino's evaluation. 7 What does Dr -- does Mr Ashton refer to in 8 connection in this next paragraph about the findings 9 that were unexpected as it related to the evaluation of 10 the miners and millers? 11 A Talking about the mineralogical aspects of 12 Rubino's talc article, he says: 13 "You recall that a few of us here were 14 talking about the surprising data which seems to show 15 that silicosis and pneumoconiosis was higher in the 16 miners than in the millers. It was surprising because 17 millers are exposed to more dust than miners. It was 18 very significant and a testimony of Rubino's veracity 19 that he's been worrying about that unexpected 20 relationship in his findings." 21 Q Is it good or a bad thing that Dr Rubino is 22 reporting on an unexpected finding related to the 23 miners and millers? 24 A That's good science. You should report on what 25 you find.	Page 1221 1 the mineralogical materials in the rock ore and the 2 talc ore. 3 Q If you turn to the last page of that document, 4 and specifically to the section where their comments on 5 capabilities of Rubino and staff -- in sort of summary 6 fashion, what did Mr Ashton report of his evaluation of 7 the capabilities of Dr Rubino and his staff? 8 A Well, in summary, he looks -- he sounds to be 9 very impressed by Rubino: 10 "Rubino's medical capabilities are without 11 question. As you well know he is in demand for talks 12 on the continent and a recognized authority in 13 occupational disease investigations". 14 He goes on to say that he was pleased to 15 learn that he has three electron microscopies at his 16 disposal in the hospital. 17 Q What is the significance of three electron 18 microscopies being available to Dr Rubino during this 19 time period of time? 20 A Well, at that time it was pretty amazing, 21 because those are expensive, sophisticated pieces of 22 equipment. What it shows is that he has the best 23 equipment available to do his research. 24 Q And in the final paragraph that Mr Panatier 25 didn't ask you about, what does Mr Ashton say to his
Page 1220 1 Q Now, in connection with the next paragraph, you 2 were asked some questions about silica and the 3 drilling, but in the middle of that paragraph there was 4 some explanatory material which seems to give context, 5 but was not shown to you or asked about. 6 Can you take a look at that and tell us what 7 is the implication or import of that additional 8 information? 9 A Well, it says that: 10 "... the miners are exposed to host rock 11 dust which contains ... amounts of muscovite (mica) ... 12 quartz (silica) ..." 13 However, it goes on to say: 14 "The millers never are exposed to those rock 15 dusts or to ... [the] mineral balance since millers 16 only mill talc, not host rocks. Rubino now needs a 17 written reference [to] communication on the mineral 18 make-up of the host rocks and talc ore. The geological 19 report from Cardiff (on file at FDA here) is a useable 20 reference for that and I gave you the appropriate pages 21 yesterday for transmittal to Rubino". 22 Q Does that indicate that the materials being 23 provided were to hide information or to provide 24 information? 25 A No, the intent was to provide information on	Page 1222 1 colleagues concerning the qualities and independence of 2 Dr Rubino? 3 A He states: 4 "My opinion on Rubino is this. He is a 5 sincere, distinguished and most capable medical 6 scientist. He has at his disposal the most 7 sophisticated of equipment and can go at any dust 8 problem with profundity. Anybody who for a moment 9 thinks that Rubino, his data, or the hospital at the 10 University of Turin is anything but top flight has 11 either snapped out [of it] or is full of crap". 12 Q You can put that one in the stack. 13 Now, let's look at document number 207. 14 (Exhibit 207, previously marked, handed to witness) 15 Do you remember 207 from yesterday? That's 16 the allegedly altered version -- 17 A The shortened version. 18 Q -- of the preliminary data? 19 A Yes, I do, yes. 20 Q I'm also going to show you the prepublication 21 copy of the article prepared by Dr Rubino and which you 22 discussed in some detail with Mr Panatier. 23 And I want you to look at the prepublication 24 document, number 207, and then we're going to compare 25 that to number 202, and I want you to tell us what

Page 1223 1 these three documents are and how they relate to each 2 other? 3 A Yeah. 4 Well, in the prepublication department, as 5 this matter was raised yesterday, there was a separate 6 line item for cause of death from larynx, lung, 7 trachea, oesophagus and stomach cancer. 8 Q And in the prepublication -- that's the 9 prepublication? 10 A That's the prepublication. There was a 11 relatively long list of different types of cancer. 12 Q Okay. 13 Now, when you turn to document number 207, 14 which is the document that Mr Panatier asked you about, 15 can you tell us from looking at number 207 what is the 16 source of that document? 17 Where was it published? 18 A I've not come across this as being published in 19 any peer review medical journal. 20 It doesn't have a page number on or a journal 21 reference, which you would normally find. 22 Q By comparison, let's take a look at number 202. 23 (Exhibit 202, previously marked, handed to witness) 24 What is the publication information as it 25 relates to the Rubino study for number 202?	Page 1225 1 Q And amongst the simple tabulation in the 2 published version, in which journal did you say that 3 is? 4 A It's the Journal of Occupational Medicine. 5 Q In the Journal of -- 6 A Sorry, Journal of Occupational Medicine, yes. 7 Q Journal of Occupational Medicine. 8 And as an aside, who does the Journal of 9 Occupational Medicine go to? 10 A Well, generally, anyone who's interested in 11 hygiene in industry. So it's pretty well anyone in 12 industry: mining, milling, factories. 13 It relates to the health of employees in any 14 industrial application. 15 MR PANATIER: Can you just show me the front 16 page? 17 Perfect. Thank you. 18 BY MS FROST: 19 Q In the chart on page 4 of Exhibit number 204, 20 which is the -- or 202, the publication version -- 21 A Yes. 22 Q What does it show as the incidence of cancer 23 for the miners and millers? 24 A It breaks down the incidence of cancer into all 25 malignant neoplasms, and then it goes on to look at
Page 1224 1 A Well, this is a print from the Journal of 2 Occupational Medicine from March, 1974. 3 Q And is the Journal of Occupational Medicine the 4 same journal which was referred to yesterday in the 5 documents as the one where one of the in-house folks at 6 Johnson & Johnson was assisting Dr Rubino in making 7 sure that the article would comply with the 8 requirements for publication? 9 A Yes. It was, yes. 10 They have a house style that you follow that 11 format if you're submitting an article. 12 Q Now, Mr Panatier asked you some questions about 13 the very last page of that particular document, but 14 what he didn't ask you about was the chart regarding 15 the results of findings amongst the miners and millers 16 in the talc area of Val Chisone. 17 If you will turn to the -- is it the fourth 18 page? 19 A Yeah. Yes. 20 Q What do you find on the fourth page of the 21 publication version of the Rubino study? 22 A There's a simple summary of observed versus 23 expected deaths in both miners and millers. 24 (Reporter clarification) 25 It's a simple tabulation.	Page 1226 1 neoplasms -- that's cancers -- of the larynx, and then 2 the lung, bronchus and trachea, and then it considers 3 the pleura, mesothelioma, the oesophagus, the stomach, 4 the intestine and the liver and any other sites. 5 Q How does that compare to the table that is 6 reflected in the prepublication document? 7 A Let's have a look. 8 Well, the prepublication document also 9 reviews all malignant neoplasms, lung, bronchus, 10 trachea, larynx, oesophagus, stomach, pneumoconiosis. 11 Yes, it's pretty well the same. Very 12 similar. 13 Q Does Dr Rubino make available data from which 14 one can analyze the incidence of malignancies amongst 15 the miners and millers in his study? 16 A Yes, it's published in this document. He deals 17 with both miners and with both millers and he looks at 18 actual employees and the control group of non-employees 19 and he compares the two. 20 Q You mentioned mesothelioma. What does the 21 study reflect as mesothelioma findings in the miners 22 and millers in Val Chisone? 23 A He found that there was no evidence of 24 mesothelioma in either the miners or the millers in 25 their particular mining operation.

Page 1227 1 Q So if Johnson & Johnson was attempting to edit 2 out of the medical literature any findings related to 3 other types of cancer in the Val Chisone workforce, did 4 they do a good or a bad job? 5 A Well, I'm not aware they tried to edit out, 6 because the prepublication version is as close to 7 identical to the final published version, and in the 8 topic of mesothelioma, very clearly there were no 9 deaths. 10 Q Now, you can set that one aside. 11 MR PANATIER: Hand it to me, please. 12 MS FROST: Of course. 13 MR PANATIER: Thank you. 14 BY MS FROST: 15 Q Dr Rubino's study is not the only study that 16 relates to the occurrence of mesothelioma in talc 17 miners and millers; is that correct? 18 A Yes, that's correct. Other people in the 19 mining of cosmetic grade, pharmaceutical grade talcs 20 have certainly looked at the health of their employees 21 over -- in many different mines around the world. 22 Q And in connection with the Rubino study, that 23 first one was published in 1976? 24 A Was it '76? 25 MS FROST: Mr Panatier, what is the	Page 1229 1 A Well, by 2003, they had a larger -- what they 2 call a "cohort". That's the number of employees that 3 comprised 1,795 men who had worked for at least a year 4 in the mine and/or the factory between 1946 and 1995. 5 So they basically did the same kind of study 6 but with a larger population. 7 Q And what did they conclude in 2003 as it 8 relates specifically to mesothelioma, which is the 9 issue in front of us in this case? 10 A Well, in a simple four-line summary they 11 concluded: 12 "This study provides additional support for 13 an association between talc in mining and milling and 14 non-neoplastic respiratory disease ..." 15 Q Stop there. What does that mean? 16 A What they noted was that there were an increase 17 in some respiratory diseases in miners and millers. 18 Q Does that go back to the silica issue that was 19 being discussed in some of those earlier documents? 20 A It is recognized that, certainly back in the 21 early days, there was a significant amount of dust in 22 the mine, and that would certainly raise the chance of 23 respiratory disease, or what they call "non-neoplastic 24 respiratory disease". 25 Q And what did they conclude concerning
Page 1228 1 publication date? 2 MR PANATIER: What? 3 MS FROST: The item. 4 MR PANATIER: This one? The official 5 publication date? March, '76. 6 MS FROST: And I apologize. I try not to do 7 that, but since we're sharing documents, you'll have to 8 forgive me. 9 Q Now, Dr Rubino did follow up studies related to 10 the miners and millers, did he not? 11 A He and his colleagues, or certainly his 12 colleagues as the years progressed, yes. 13 Q And there is a follow up of the mortality study 14 of talc miners and millers in Italy from 2003, is there 15 not? 16 A That's right. The same mine, but more people. 17 Q And I have marked this as 249. 18 (Exhibit 249 marked for identification) 19 Who was the lead author on the follow up in 20 2003? 21 A Maurizio Coggiola. 22 Q All right, and how do we spell Coggiola? 23 A C-O-G-G-I-O-L-A. He's an M.D. 24 Q What did Mr Coggiola and his colleagues look at 25 in the 2003 publication?	Page 1230 1 neoplastic respiratory disease? 2 A Then they go on to say: 3 "... while showing no significant excess risk 4 for lung cancer and mesothelioma". 5 Q Did they find any mesothelioma in the miners 6 and millers in their report from 2003? 7 A Let me refresh myself ... 8 No, they didn't, no. 9 Q 2003 wasn't the last time that a researcher 10 looked at the workers who had worked as miners or 11 millers in Val Chisone; correct? 12 A That's correct. The same team plus one two 13 others, they looked at the same mine operation with 14 even more people by 2013 -- 2017. 15 Q I'm handing you what I have marked as number 16 250. 17 (Exhibit 250 marked for identification) 18 Are you familiar with this paper published in 19 2017 that's entitled Mortality of Talc Miners and 20 Millers from Val Chisone, Northern Italy? 21 A Yes, I've read this paper, yes. 22 Q And what is this paper taking a look at? 23 A The aim of the study was to update the analysis 24 of mortality in talc miners and millers in northern 25 Italy, and they looked at the mortality from 1946 to

Page 1231 1 2013 of 1,722 male workers in an asbestos free talc 2 mine, of which 1,166 were miners and 556 were millers. 3 Q Is this the same or a different group of 4 employees that were evaluated first by Dr Rubino and 5 then later by Dr Coggiola? 6 A It's an update of the group. Some -- there 7 were probably some additions. 8 Q What conclusion, and who is the lead author on 9 this one? 10 A The lead author was also on the 2003 paper, 11 Enrico Pira, MD. P-I-R-A. 12 Q What do the researchers report in 2017 13 concerning their findings related specifically as to 14 mesothelioma in the talc miners and millers from the 15 Val Chisone area of northern Italy? 16 A They concluded simply: 17 "We confirm the lack of association between 18 exposure to asbestos free talc, lung cancer and 19 mesothelioma". 20 Q So what does that mean in plain English? 21 A It meant that those millers and miners working 22 in that environment did not get mesothelioma or lung 23 cancer associated with their work. 24 Q You may set that aside. 25 The health status of miners and millers who	Page 1233 1 the Vermont talc business. 2 Q As an aside, what would be the anticipated 3 levels of exposure to talc for someone working as 4 either a miner or a miller in a cosmetic talc mine? 5 A They would vary. 6 The miners are exposed traditionally to quite 7 high levels. Certainly going back to pre-war time, the 8 quality of work environment in the mines was much 9 dustier than it is today. Today there's more forced 10 ventilation, so the air is less dusty. 11 Whereas the millers, working above ground, 12 are going to be exposed to much less talc dust. 13 But in both cases there is a pretty well 14 eight hour day exposure to some level of talc dust on a 15 daily basis for many, many, many years. 16 Q Was Johnson & Johnson aware of the Selevan 17 study in 1979? 18 A Yes, yes. This has been in the company files 19 since it was available. 20 Q Were you familiar with this study when began 21 your work in 1976? 22 Clearly, you wouldn't have anticipated it in 23 '76, but as part of the job that you did as a 24 toxicologist, did you become familiar with this report 25 in the time period when it was published.
Page 1232 1 deal with talc have been evaluated in areas other than 2 just Italy, have they not? 3 A They have, yes. There are talc mines in 4 several countries that mine cosmetic grade talc. 5 Q I'm going to hand you number 51. 6 (Exhibit 251 marked for identification) 7 Are you familiar with this document? 8 A Yes, I've read this many times. 9 Q And what is this? 10 A This is a report from Selevan and colleagues, a 11 United States report, dated 1979, and they look at 12 Mortality Patterns Among Miners and Millers of 13 Non-asbestiform Talc, and this is a preliminary report. 14 Q When you say miners and millers in the United 15 States, does that include any of the areas where the 16 Windsor mine was located? 17 A It did include. Yes, it was done as part of 18 the Vermont Health Department's surveys. 19 So it relates to the Vermont talc industry. 20 Q What did Selevan and his colleague Dr Dement 21 and others conclude concerning the incidence of 22 mesothelioma amongst the workers in the mines in 23 Vermont and their exposure to talc? 24 A They concluded that there was no association 25 between mesothelioma and miners and millers working in	Page 1234 1 A I did, yes. I mean, it's part of the job to 2 keep up to date with the medical literature. So I was 3 certainly aware of this one in '79, '80, yes. 4 Q You may set that aside, and I will hand you 5 number 248. 6 (Exhibit 248 marked for identification) 7 What is number 248? 8 A It's a publication from a medical journal. 9 It's the Journal of Occupational and Environmental 10 Medicine, and it's from 2002, and the title of the 11 article is A Cohort Mortality and Nested Case Control 12 Study of French and Austrian Talc Workers. 13 Q So we have Italian from Rubino, Coggiola and 14 Pira. Then we have American from Selevan. 15 This one is French and Austrian? 16 A French and Austrian employees, yes. 17 Q And who was the first author on that one? 18 A It's Mr P Wild. 19 Q W-I-L-D? 20 A Yes. 21 Q What did the researchers conclude concerning 22 the risk of health effects to French and Austrian talc 23 workers as part of their evaluation? 24 A They summarized in two lines: 25 "The mortality from non-malignant respiratory

Page 1235 1 disease was found to be related to high cumulative 2 exposure to talc dust. The small excess in lung cancer 3 does not seem to be attributable to talc". 4 Q Do they find any mesothelioma? 5 A Just let me check, please ... 6 No, in both the Austrian cohorts they found 7 no cases of mesothelioma, and in the French group they 8 found no cases of mesothelioma. 9 Q Are you familiar with this document, sir? 10 (Exhibit 246 marked for identification) 11 A Yes, I remember this. 12 Q And what is this? 13 A This is a publication in the American Journal 14 of Industrial Medicine from 1990 and it is from a 15 Norwegian talc mine, a cosmetic talc mine. 16 The author is Ebba Wergeland. 17 Q You're going to have to spell that one for me. 18 A Yeah. Wergeland. W-E-R-G-E-L-A-N-D, and he or 19 she is an MD. 20 Q And you said that is Norway? 21 A It is in Norway. Yes, it is Norway, yes. 22 Q What were they studying in the Norway 23 employees? 24 A They were essentially looking for the health of 25 employees who were exposed to talc dust as part of the	Page 1237 1 general population. 2 Q And what did they conclude concerning the 3 existence of mesothelioma? 4 A Just let me double check ... 5 They don't report mesothelioma as a cause of 6 death. There's no mention of mesothelioma as a cause 7 of death. 8 Q So no meso reported? 9 A No meso reported, no. 10 Q If one were to exclude the original Rubino 11 study from the list of epidemiological studies related 12 to the relationship between talc miners and millers and 13 the development of mesothelioma, would it change the 14 conclusion at the end of the day concerning the 15 relationship between exposure to cosmetic talc and the 16 risk of the development of mesothelioma? 17 A No, it wouldn't. 18 I mean, in all these cases we have several -- 19 certainly well over 2,000 employees exposed to quite 20 high levels of talc dust pretty well all day for 20 or 21 more years, and in no case was mesothelioma ever 22 reported. 23 Q When you combine the historic testing done both 24 internally by Johnson & Johnson and externally by its 25 consultants with the epidemiological findings of the
Page 1236 1 their job. 2 They looked for mesothelioma, tuberculosis, 3 pneumoconiosis, lung disease in general. 4 Q And what did they conclude concerning the 5 health status of the Norwegian talc workers? 6 A Well, this was a group of 94 talc miners and 7 295 talc millers exposed to non-asbestiform talc, and 8 they commented that: 9 "Mesothelioma, tuberculosis or pneumoconiosis 10 were not reported as a cause of death". 11 Q So no mesothelioma? 12 A No mesothelioma. 13 Q Are you familiar with this one, sir? 14 (Exhibit 247 marked for identification) 15 A Yeah, this is a follow up from the same team, 16 Dr Wergeland in Norway. This one is dated 2017 and 17 it's published in the American Journal of Industrial 18 Medicine. 19 Q The same set of Norwegian workers? 20 A It's the same workers, yes. 21 Q What did they conclude? 22 A It's essentially a longer follow up with more 23 workers. 24 But they followed up for 24 years, covering 25 1953 to 2011, and they compared the workers with the	Page 1238 1 medical researchers who have looked at the issue of 2 development of disease amongst those who work all day 3 in their work day with cosmetic talc products, what 4 does that lead you to conclude on behalf of Johnson & 5 Johnson concerning the risk for development of 6 mesothelioma for users of its cosmetic talc products? 7 A Okay. I'm trying to summarize that in a couple 8 of sentences. 9 It's clear that in none of the analyses of 10 baby powder talc has anyone found asbestos, and if we 11 look at some real life exposure of people who've been 12 exposed to quite high levels of talc dust every day of 13 their lives for 20, 30 or more years, and no cases are 14 there reports of mesothelioma. 15 Q During the years you worked for Johnson & 16 Johnson and with all the interaction you've had with 17 their scientists and the outside experts, what was the 18 consensus of the scientists, both at Johnson & Johnson 19 and on the outside consultants, concerning health risk 20 for users of Johnson's cosmetic body powders? 21 A Assuming and presuming that consumers use the 22 product as directed and in a normal consumer fashion, 23 there was zero health risk. 24 Q When you talk about "consumers", we talk about 25 them in sort of a hypothetical way.

Page 1239 1 But as an employee of Johnson & Johnson, were 2 you a user or consumer of those products yourself? 3 A Absolutely, yes. I mean, I've had three -- we 4 have had three -- my wife and I have three children. 5 We certainly used baby powder. 6 All three of my children are married and have 7 families. Between them there is an additional eight 8 grandchildren and I know that I can go into any of 9 their homes and they use talc powders, mostly Johnson's 10 Baby Powder. 11 My mum, who passed away a few months ago, 12 almost 99, she used Johnson's Baby Powder pretty well 13 all her life. 14 So from a personal view, I have never had any 15 concern for myself or my family in using baby powder. 16 Q In connection with the company view of the 17 efficacy and the safety of Johnson's Baby Powder, you 18 are here as the corporate representative. 19 So what is Johnson & Johnson's position, as 20 we sit here today, concerning the status of its 21 cosmetic talc products and the potential for the 22 existence of asbestos in those products? 23 A The company is very clear. There is not and 24 never has been any asbestos in the talc products, and 25 the products are safe to use.	Page 1241 1 A It does, yes. That's been the case since the 2 1940s when the company set up what they call a "company 3 credo". 4 Q What's that? 5 A It's an interesting little one page document, 6 and it's got about four paragraphs. 7 It was initiated by the then Chairman of the 8 company, General Johnson, and he set out the guiding 9 principles that all employees have to follow to ensure 10 that the company performs well. 11 Q And how does that relate to this? 12 A Well, the first principle says that we have a 13 responsibility to the users of our products, nurses, 14 doctors, mums, babies, et cetera, and the products 15 should be safe. 16 That's the first principle. 17 Q Over the years, has Johnson & Johnson kept 18 abreast of the development of the scientific and 19 medical literature as it relates to talc? 20 A I believe so, yes. 21 Certainly, if you look through the company 22 files, you will find a lot of correspondence, a lot of 23 important information on the safety of talc, published 24 in the medical literature from symposia, meetings. 25 There is a great deal of talc safety
Page 1240 1 Q Even though they think that, why not just 2 include a warning? 3 Mr Panatier talked to you for a very long 4 time about warnings. 5 You have told us you don't have any concerns 6 about the product, the company doesn't have any 7 concerns about the product. Why not just throw on a 8 warning for the fun of it? 9 A I think the best answer to that is to recognize 10 that a warning should mean there is an issues. There 11 is a concern to be avoided. 12 We seem to put warnings in many cases where 13 you've got to question was that right. I get a cup of 14 coffee from a well known store, it says, "Caution, 15 product may be hot". I know that. 16 But in the case of talc products, there is 17 never a valid reason to say there is a safety issue 18 with this product. So a warning becomes in a sense 19 irrelevant. 20 It can actually devalue the nature of 21 warnings by having unnecessary warnings. 22 So I believe that there is no valid reason to 23 have a warning on this product relating to asbestos. 24 Q Does Johnson & Johnson take seriously its 25 responsibility to its customers and users?	Page 1242 1 information in the public domain, and the company has 2 ensured that it keeps up to date with that. 3 Q If you had to tell someone what you think on 4 behalf of the company about the safety of the baby 5 powder or the other cosmetic powders, what would you 6 tell them? 7 A I would tell them that there's no hazard in 8 using those products, that they're quite safe to use, 9 and have been since the 1890s. 10 There's never been any proven issue with 11 products when used as intended. The product is safe. 12 MS FROST: Let's go off the record. 13 (Off the record at 3:22 pm) 14 (On the record at 3:29 pm) 15 MS FROST: Dr Hopkins, those are all the 16 questions I'm going to have for you this afternoon. 17 I am now going to pass the witness and I 18 believe some of the other lawyers will have some 19 questions for you. 20 THE WITNESS: Thank you. 21 EXAMINATION: 22 BY MR GAFFREY: 23 Q Hello, Dr Hopkins. 24 A Hello. 25 Q My name is Marc Gaffrey. I represent Whittaker

Page 1243 1 Clark & Daniels. 2 You and I have met a number of times over the 3 past few days, have we not? 4 A We have, yes. 5 Q And you understand I represent Whittaker Clark 6 & Daniels in this case? 7 A I do, yes. 8 Q Just from my own understanding, Johnson & 9 Johnson's Baby Powder was manufactured through the Baby 10 Products division of Johnson & Johnson? 11 A Yes. Historically, it was termed Baby Products 12 division. It became Consumer Products division back in 13 the 1990s, but historically the terminology on 14 letterhead is Baby Products Company. 15 Q Okay. 16 And, likewise, Shower to Shower, which 17 I understand became -- came into production some time 18 later; is that correct? 19 A It did, yes. 20 Q And I think we established the date some time 21 during the course of this deposition, but it was a 22 later period? 23 A It was much later, yes. 24 Q And was that also produced through the Baby 25 Product division and later the Consumer Products	Page 1245 1 A It is correct, yes. 2 Q And in my review of those documents, I have not 3 seen a document which referenced Whittaker Clark & 4 Daniels as a source of talc used either in Johnson & 5 Johnson Baby Powder or Johnson & Johnson Shower to 6 Shower; is that correct? 7 A That's correct. I've not seen it used in 8 manufacturing operations for either of those products. 9 Q Okay. 10 Just to conclude that area of questioning, 11 would it be true to the best of your knowledge that 12 Whittaker Clark & Daniels was never a source of talc 13 used in the production of either Johnson & Johnson Baby 14 Powder or Johnson & Johnson Shower to Shower; is that 15 correct? 16 A That's correct. As far as I'm aware having 17 read as many documents -- not quite 170,000 -- but I've 18 not seen Whittaker Clark Daniels supply as a source of 19 product used for sale to the consumer. 20 Q And that would be for production? 21 A For production, yes. 22 Q And you had made reference -- I forget if it 23 was Day 1 or Day 2 of your testimony -- to certain mine 24 strikes? 25 A There was a mine strike in the Vermont mine in
Page 1244 1 division? 2 A That's correct, yes. 3 Q And you are, as you've testified here in the 4 past few days, familiar with the suppliers or the 5 sources of talc for use in the Baby Product division, 6 and later the Consumer Product division, throughout 7 your tenure and subsequently in your time as a 8 consultant; is that correct? 9 A Yes, I read the correspondence that I -- has 10 been available to me to see who the suppliers were. 11 Q During the past four days of your testimony, I 12 have not heard you reference Whittaker Clark & Daniels 13 as a supplier or a source of talc to Johnson & Johnson 14 for use either in baby powder or Shower to Shower; is 15 that correct? 16 A It's correct. I've not seen Whittaker Clark 17 Daniels' letterhead or correspondence in products that 18 we used for sale to manufacture Shower to Shower or 19 Johnson's Baby Powder. 20 Q And, in fact, Johnson & Johnson turned over a 21 number of documents in this litigation; is that 22 correct? 23 A Yes. 24 Q And from what I've seen, it's an estimated 25 170,000 pages of documents; is that correct?	Page 1246 1 the 1980s, as I recollect, yes. 2 Q Was that the only mine strike, to your 3 knowledge? 4 A On the Vermont mine, yes, yes. 5 Q And during that mine strike, was it necessary 6 for Johnson & Johnson to obtain talc for use in baby 7 powder and Shower to Shower from some other source? 8 A It was. In fact, for a very short period of 9 time, I think just a few months, they reverted to the 10 historic Italian 00000 talc from the Fontana mine in 11 Italy. 12 Q Okay. 13 Was there a particular company that sourced 14 that talc for use in baby powder and Shower to Shower 15 to Johnson & Johnson for production during the mine 16 strike? 17 A Yeah, the records that I've seen indicate it 18 was supplied by Cyprus Minerals at that time. 19 Q I'm going to ask you to assume for the moment 20 that Whittaker Clark & Daniels on March 19, 1977, sold 21 five 50 pound containers of 141 talc to Johnson & 22 Johnson Baby Products division. 23 Would you have knowledge or an idea of what 24 that would have been used for? 25 A With a hundred per cent certainty I wouldn't be

Page 1247 1 sure what it was used for, but that is a very small -- 2 small amount. 3 It would be too small to be used in a 4 manufacturing operation, but it's the kind of amount 5 that would be used in an R&D operation if R&D were 6 evaluating a talc sample for a product. 7 It could well have gone to the research 8 laboratory to see if it's of value in the company. 9 (Reporter clarification) 10 A research sample. 11 Q And R&D stands for Research and Development? 12 A Research and Development, yes. 13 Q And if Johnson & Johnson had to, or wanted to 14 use talc 141 from Whittaker Clark, what would they have 15 had to do in order to be able to produce that talc from 16 that material? 17 A That would have needed to have gone through a 18 fairly detailed validation process. 19 Part of that would have been to ensure that 20 it met, as we've talked about earlier, the 21 specification. 22 But also that it matched the fragrance that 23 was currently being used and that it processed 24 according to the way the factory would require it. 25 It would need to -- the product would need to	Page 1249 1 A No, it's the same -- same thing. It's too 2 small. 3 It wouldn't -- wouldn't barely go in the pipe 4 work of the production operation. So it's too small an 5 amount. 6 Q And what if Whittaker Clark & Daniels sold 12 7 fifty pound containers of 5251 talc to Johnson & 8 Johnson? Would that have been used in production? 9 A Again, that's too small. 10 The production operation runs by many tons 11 per operation. Half a ton of talc would not -- would 12 barely go into the machinery. It's too small to be 13 used. 14 It's the kind of amounts that the research 15 group would use if they were evaluating a sample of 16 talc. 17 Q What about, just using odd numbers, 50 pound 18 bags or 50 pound containers of 3440 talc, would that 19 have been used in production? 20 A Again, the same -- the same applies. A 50 21 pound sack is just too small to even get through -- you 22 know, it would never be used in the equipment. 23 The equipment works by tons, not a few 24 pounds. So those kind of numbers, 50 pounds, 100 25 pounds, that's the kind of thing that the research and
Page 1248 1 be put on stability. The product would need to have 2 been evaluated by consumers. 3 So they could well have -- they would use 4 those kind of four 50 pound sacks -- could well have 5 been done for a preliminary evaluation. 6 Q But it would not have been feasible to Johnson 7 & Johnson to use the five 50 pound containers of 141 8 talc in the production? 9 A No. No, the production uses amounts in the 10 tonnages, not a few hundred pounds. 11 You would not have -- you would not have used 12 the equipment for that. 13 It's more likely -- and, again, I'm only 14 guessing -- it sounds more like an R&D project. 15 Research and development project. 16 Q And you can state with reasonable certainty, 17 then, that the 141 talc -- the five 50 pound containers 18 from Whittaker Clark & Daniels was not used in 19 production? 20 A With reasonable certainty, it's too small an 21 amount to ship to production. 22 Q And, likewise, if Whittaker Clark & Daniels 23 shipped to Johnson & Johnson Baby Products division 24 three 50 pound containers on January 19, 1979, that 25 would not have been used in production?	Page 1250 1 development group could well be evaluating. 2 Q So you can state with reasonable certainty that 3 if Whittaker Clark & Daniels delivered a 50 pound -- 4 50 -- 50 -- 50 pound containers of talc to Johnson & 5 Johnson, it would not be used in production for either 6 Johnson & Johnson Baby Powder or Shower to Shower? 7 A Yes, I can. With reasonable certainty, that is 8 the case, yes. 9 Q Thank you. 10 A Thank you. 11 MR GAFFREY: And I appreciate your endurance. 12 MR PANATIER: All right. Let's go off the 13 record. 14 (Off the record at 3:39 pm) 15 (On the record at 3:44 pm) 16 EXAMINATION: 17 BY MR PANATIER 18 Q We're going to proceed with my questions if 19 no one else on the phone has questions. 20 The next exhibit is 252. 21 (Exhibit 252 marked for identification) 22 Here you go, sir. 23 A Thank you. 24 Q Sir, can you see that this is a letter dated 25 February 16, 1970; it's from Donald Ferry at Chas

Page 1251 1 Mathieu to Robert G Smith at Whittaker Clark & Daniels? 2 A That's what it says on the letter, yes. 3 Q Do you understand the questions that you were 4 just given were from the lawyer from Whittaker Clark & 5 Daniels; right? 6 A Yes. 7 Q Okay. 8 So Don Ferry says here to the President of 9 Whittaker Clark & Daniels: 10 "Dear Bob ..." 11 And then he says: 12 "We have been reviewing the situation of 13 Metropolitan Talc Co and its future operations here in 14 this office and believe that because of the recent 15 developments, that serious consideration should be 16 given to the raising of price on all grades of Canadian 17 Talc currently sold. While our initial estimate of the 18 situation seemed to indicate a more gradual approach to 19 the problem, several things have occurred which we 20 believe make it reasonable to increase prices almost 21 immediately". 22 That's just our context; okay. 23 "The large loss sustained last year by 24 Metropolitan was caused by failure of prices to meet 25 the costs of producing at South Plain-field. As you	Page 1253 1 Q And Whittaker Clark & Daniels is saying they're 2 prepared supply more; right? 3 A Yes. 4 Q Okay. You can set that aside, sir. 5 What I want to do is I kind of -- I want to 6 start near the end, because you recall that you were 7 asked to look at the Rubino paper and the 8 prepublication version; right? 9 A Yes. 10 Q Right. Okay. I'm going to leave this Post-it 11 on there. 12 And you were shown -- remember yesterday we 13 established Rubino wrote two papers in the '70s; right? 14 A He wrote a paper that was published in the 15 American Journal of Hygiene. 16 Q Well, no, he published one that was published 17 in the Journal of Occupational Medicine? 18 A Occupational Medicine, yes. 19 Q And then he wrote a second one published in the 20 Society for Occupational and Environmental Health; 21 correct? 22 A Okay. I've not seen that. Was that the one we 23 discussed yesterday? 24 Q It indeed is. 25 A And what was reference for the publication?
Page 1252 1 are well aware, we have received the initial order from 2 Johnson & Johnson of New Brunswick for 1100 tons of ... 3 1615 talc to cover the period of February 23rd through 4 June 15th." 5 Now, 1,100 tons is a lot more than a couple 6 of 50 pound bags; right? 7 A It is, yes. 8 Q And 1615 is Italian talc; correct? 9 A It is, yes. That's my understanding, yes. 10 Q Right. 11 "They have indicated great concern to us that 12 if Shower to Shower should meet with good market 13 approval, they might have to increase this tonnage and 14 wonder about our abilities to supply. We have assured 15 them that with the existing business we have in hand, 16 we could take care of between 2000 and 2500 tons on an 17 annual basis." 18 Did I read that right? 19 A You did, yes. 20 Q All right. 21 So on the basis of an actual document, we 22 know that Johnson & Johnson actually ordered 1,100 tons 23 of Italian from Whittaker Clark & Daniels at some point 24 before February 16, 1970; correct? 25 A That's what it would imply, yes.	Page 1254 1 Q So the reference of the publication was the 2 exhibit which I can show you. 3 But here's the first one; okay. Remember 4 there was a mortality study? 5 A Yes. 6 Q And a morbidity study, remember? 7 A Yes, yes. 8 Q And I asked you the question. I said: 9 mortality means death; morbidity means illness? 10 A Correct. 11 Q Right. 12 So you were looking at the mortality study. 13 That was the first study; right? 14 A Yes. 15 Q 1976 is when it actually ended up in the 16 Journal of Occupational Medicine? 17 A Yes, and of course it also discusses other 18 diseases. 19 Q Right. 20 If you want to finish today, you just got to 21 answer the questions; okay? 22 A Yes. 23 Q Okay. All right. 24 Now, what you were shown by Ms Frost was the 25 prepublication copy which you and I asked about

Page 1255 1 yesterday. 2 A Yes. 3 Q Now, the prepublication copy, that entire 4 packet is dated March 20, 1978? 5 A Yes. 6 Q Now, unless Johnson & Johnson bought Dr Rubino 7 a time machine, he could not have given them a 8 prepublication copy of the second article, the 9 morbidity article, before that article came out; 10 correct? 11 A And what was the date of the morbidity article? 12 Q March 20, 1978. 13 A Okay. 14 Q Okay. 15 So when you were comparing the 16 prepublication, and Ms Frost wrote it up there. She 17 wrote: prepublication? 18 A Yes. 19 Q And publication? 20 A Yes. 21 Q The prepublication copy was for the article 22 published in 1979. We do not have a prepublication 23 copy of the one published in '76. 24 Do you have that straight now? 25 A May I look at the exhibit?	Page 1257 1 just broken down by miners and millers; right? 2 A Correct. 3 Q Okay. 4 Because then he has other tables broken down 5 by amounts of exposure; right? 6 A Correct. 7 Q So let's just look at -- the easiest one to 8 look at is miners and millers there? 9 A Yes. 10 Q On that page? 11 A Yes. 12 Q And you can see there's different cancers that 13 are reported; correct? 14 A Correct. 15 Q There are a few elevated cancers, but not by 16 much in that publication; is that right? 17 A That is right, yes. 18 Q Okay. 19 Now, it sounded to me like what you guys were 20 trying to do was to suggest that the data that I said 21 didn't make it into the morbidity study was actually in 22 the morbidity study; right? 23 A Well, that's what you're saying. 24 Q Well, that's what you guys were doing; right? 25 A That's what you're saying.
Page 1256 1 Q Of course. There it is, and you can see in the 2 top corner the Rubino morbidity study; right? 3 And the date on that is 1978? 4 A Yes. 5 Q Okay? 6 A Yeah. 7 Q And then you can see this is the prepublication 8 copy for the morbidity study; right? 9 A That is the date, yes. 10 Q Okay. 11 Now, the mortality study also had data on 12 cancers; right? 13 A Yes. 14 Q Okay. 15 Now go ahead and turn to the page that 16 Ms Frost flagged for you; okay? 17 So the first study had data on cancers? 18 A Yes. 19 Q The second study, which you have seen the 20 actual publication, did not except for lung cancer; 21 correct? 22 A Yes. 23 Q All right. 24 So you are looking at the first publication 25 and it has -- what you're looking at on that page is	Page 1258 1 Q That's what I'm saying you were doing; am I 2 right? 3 A I'm not sure how you're interpreting it. So -- 4 Q Okay. 5 A -- let's pass on that one. 6 Q Sure. Okay. We'll pass. We'll come back to 7 that; okay? 8 A Yes. 9 Q So this is the data from the second study that 10 I'm putting in front of you, all right, and it reports 11 on cancers of larynx, oesophagus, stomach; okay? 12 A It does, yes. 13 Q And you have the data from the previous study 14 there. 15 A Yes. 16 Q Right. 17 Now, if you look at the observed and expected 18 and you compare it with the second study, it is a 19 different data set; correct? 20 A It is, and I believe I said half an hour ago 21 that the reports were essentially similar. 22 Q Except that the raw data from the second paper 23 never made it into the paper; right? 24 A That's an interpretation, yes. 25 Q Well, that's a fact, isn't it?

Page 1259 1 A Yes. It is, yes. 2 Q All right, sir. You can set that aside. 3 Okay. So now we're going to jump around 4 again. We're going to go to the year 2000. 5 (Briefly off the record) 6 This will be 253. 7 (Exhibit 253 marked for identification) 8 Here you go, sir. 9 Exhibit 253 is a memo by the CTFA, dated 10 October 10, 2000; do you see that? 11 A I do, yes. 12 Q And it's from Linda Loretz, who we have 13 discussed before; right? 14 A Yes. 15 Q And she's with the CTFA; true? 16 A She is, yes. 17 Q You have talked some about the NTP, the 18 National Toxicological Program; right? 19 A Yes. 20 Q And just to make it clear, ultimately the NTP 21 was considering talc with no asbestos in it; right? 22 A That is correct, yes. 23 Q Right. 24 So when Ms Frost wrote on her board, "NTP, 25 not a carcinogen -- talc not a carcinogen", they were	Page 1261 1 A That was their proposal, yes. 2 Q Okay. 3 "The conclusion is based on the human 4 epidemiology studies that purportedly link Talc use in 5 the perineal area with ovarian cancer. The web address 6 ... [is yada yada] The NTP Board of Scientific 7 Counselors is scheduled to meet December 13 or 14 to 8 review the conclusion. Attention from the press may be 9 expected before then, however, since the report is 10 publicly available. 11 CTFA has contacted a consultant in 12 epidemiology to determine if sufficiently high powered 13 epidemiologists will be available to question the 14 studies being used to support the ovarian cancer 15 concern, along with a cost estimate. A crisis 16 management firm has also been contacted to determine 17 the cost of preparing for the expected public interest. 18 When this information is received, it will be forwarded 19 to the Task Force for review and support." 20 So the industry was kind of scrambling to 21 reply to this; right? 22 A Yes, the industry was putting together their 23 position to defend the safety of talc. 24 Q And ultimately they put forth their position; 25 right?
Page 1260 1 only considering talc that had no asbestos in it; 2 correct? 3 A They were considering the word "asbestiform 4 free talc". 5 Q Right, which if it's asbestiform free, it's 6 asbestos free; correct? 7 A Correct. 8 Q All right. 9 And you're aware that both the NTP and IARC 10 consider talc containing asbestos to be a carcinogen; 11 correct? 12 A They do. 13 Q And Johnson & Johnson would agree with that; 14 correct? 15 A Correct. 16 Q All right. 17 So for background, here's what she said: 18 "The NTP background document addressing the 19 listing of Talc in the Report on Carcinogens was posted 20 on the NTP webpage today, with the conclusion that 21 Non-asbestiform Talc ..." 22 So non-asbestos talc: 23 "... is 'reasonably anticipated to be a human 24 carcinogen'". 25 So that was what was proposed by NTP; right?	Page 1262 1 A They did, yes. 2 Q And they persuaded the NTP not to find that 3 non-asbestos talc was a carcinogen; right? 4 A That was the outcome of the dialogue, yes. 5 Q All right. 6 This next one will be something -- 254. That 7 will be quicker. 8 (Exhibit 254 marked for identification) 9 So this is an email, and, sir, you can see 10 that this is from Richard Zazenski and he is at 11 Luzenac; correct? 12 A Correct. 13 Q Okay. 14 And this is dated January 2, 2001, so this is 15 just a couple of months after the NTP announced their 16 proposal; right? 17 A Yes. 18 Q And number 1 says: 19 "Jim congratulated us for a fine victory, but 20 suggested we not get too confident just yet. He 21 confirmed that the talc session was quite an 22 embarrassment for NTP but that might also motivate them 23 to address the talc definition issue with greater 24 resolve". 25 Now, before we move on into the rest of this

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1 thing, we've been talking a lot about definitions in
2 this case; right?
3 A Yes.
4 Q What is asbestos? What is asbestiform? The
5 difference between massive tremolite and asbestiform
6 tremolite, and so forth; right?
7 A Yes.
8 Q Now, the industry was using sort of a
9 definition defense with the NTP; correct?
10 A That's -- that is possible, yes.
11 Q All right.
12 Well, if you go down to the second to last
13 paragraph, Mr Zazenski, who is at Luzenac, now Imerys,
14 says:
15 "We, the talc industry, dodged a bullet in
16 December based entirely on the confusion over the
17 definition issue".
18 Do you see that?
19 A That's what he has written.
20 Q All right, sir. You can set that aside.
21 Okay. Let's go back towards the beginning of
22 the questions asked by Ms Frost.
23 Now, you said at the beginning of your
24 examination and at the end, you said talc is safe for
25 use, including baby talc; right?

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1 A Yes.
2 Q Now, I showed you a website controlled by
3 Johnson & Johnson yesterday where Johnson & Johnson
4 says skip the powder because it can be harmful to
5 baby's lungs; right?
6 A Well, the website is not controlled by Johnson
7 & Johnson. They have zero influence on editorial
8 content.
9 Q Okay.
10 Well, it is called babycenter.com; right?
11 A Yeah, it's a that company Johnson & Johnson
12 purchased some time ago.
13 Q Okay.
14 A But they have zero control over the content.
15 Q Okay.
16 Johnson & Johnson endorses what they say;
17 right?
18 A It depends how you define "endorses".
19 As I say, they have zero control over the
20 content. So if you have zero control over what is
21 written, you cannot have the grounds to endorse it.
22 Q Well, let me give you a hypothesis.
23 Would Johnson & Johnson be endorsing it if
24 they had numerous links to BabyCenter on the Johnson &
25 Johnson.com website?

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1 A Again, I repeat what I said. Johnson & Johnson
2 own the company, babycenter.com. It was a company they
3 purchased.
4 Part of that remit is that they have zero
5 control over what is written on the website.
6 So the idea of influence is -- it just does
7 not exist, either for or against any comment on the
8 website.
9 Q Johnson & Johnson owns babycenter.com?
10 A They own the company.
11 Q Has no control over them?
12 A But has no control over the editorial content.
13 Q All right.
14 And we're not to read it one way or another
15 if Johnson & Johnson links to babycenter.com on the
16 Johnson & Johnson.com website?
17 A We can interpret any way we wish, but the
18 reality is that Johnson & Johnson has zero control over
19 the content of the website, the way it's written.
20 Q That's not the question I asked.
21 The question I asked is: we're not to take it
22 as any type of endorsement that Johnson & Johnson
23 offers babycenter.com as a resource to people on their
24 own website; correct?
25 A Again, Johnson & Johnson owns the company, but

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1 not the content. So what is written on the website is
2 not endorsed by Johnson & Johnson.
3 Q Other than linking to it and saying: you can go
4 here for information; right?
5 A Yeah, absolutely.
6 Q So, as you sit here today, people should
7 continue to powder their babies with Johnson &
8 Johnson's talc; right?
9 A Yes.
10 Q Okay.
11 Now, you also serve as a consultant in some
12 litigation; right?
13 A I have done, yes.
14 Q I never asked you the question: about how often
15 do you work as a consultant in litigation in terms of
16 either hours or your total time?
17 A Probably once -- typically, once every six,
18 nine, ten months.
19 Q Okay.
20 Now, we went through a number of studies
21 yesterday, or two days ago, from the '50s and '60s that
22 Battelle did where they were looking in the actual
23 proportion of the talc process that would ultimately go
24 into the end product, and they were finding tremolite;
25 do you recall that?

Page 1267 1 A They claim to find a type of tremolite, yes. 2 Q Now, that's my follow up. You kept saying they 3 found tremolite and we don't know whether it was 4 fibrous or massive; right? 5 A Correct. 6 Q Johnson & Johnson, in response to those 7 Battelle studies, never went back and said: let us know 8 what proportion, if any, is fibrous as opposed to 9 massive; correct? 10 A I've not seen that in the literature, although, 11 historically, we know the answer to that because we 12 know that there was no asbestos tremolite in the mines 13 that were being the source of supply. 14 Q Can we go to the board. Thanks. 15 So these were the studies we went through, 16 and from the '50s, and in '48 you were asked about that 17 document. That was just a governmental document that 18 said there was serpentine and asbestos in Vermont talc 19 generally; right? 20 A Yes. Certainly back in the '40s, as I've read, 21 there were something like 50 talc mines in Vermont. 22 Q Okay. Well -- 23 A Not necessarily the one that J&J were using. 24 Q Well, the Battelle studies were Johnson & 25 Johnson's tests of the Italian talc that it was using;	Page 1269 1 Internally, the non-talc needles, those are 2 tremolite. That was written by Johnson & Johnson; do 3 you recall that? 4 A That was an analysis done in 1971 of 344L talc, 5 and I'm absolutely certain that that was re-evaluated 6 and shown to be not asbestos. 344L is not a talc 7 product. 8 Q Right. There was a longer story to this; 9 right. 10 A Sorry, not a needle talc product with 11 tremolite. 12 (Reporter clarification) 13 Okay. That 344L grade talc was shown to be 14 free from asbestos. 15 Q What was shown, let's be very clear, is that 16 Colorado School of Mines went to a meeting with 17 everybody, including Johnson & Johnson, on 3 August and 18 on 6 August they wrote back and said: now that we went 19 to that meeting, we remember that we contaminated all 20 the samples; right? 21 A What they said in a follow up: we've evaluated 22 the product again and we do not find any asbestos or 23 tremolitic talc that's asbestosform in your product. 24 And that pretty well reflects dozens upon 25 dozens of different analyses conducted on the same talc
Page 1268 1 correct? 2 A That is correct, yes. 3 Q Okay. 4 And you don't dispute the conclusions of 5 Battelle; right? 6 A No. 7 Q Now, for instance, you've said none of it was 8 fibrous, or none of it was asbestos, and you have 9 continued to say that. 10 But, for instance, this is just one memo that 11 you and I looked at in 1967 where they were looking at 12 somebody else's product, and they said: 13 "Baby-mate is greater than or less than -- I 14 can't read anymore -- .5 per cent fibrous tremolite". 15 Right? 16 A That relates to Baby-Mate. 17 Q That's right, and then they said: this compares 18 to our Italian number 1 talc. 19 A The definition of "compares" is not given 20 there. Compares could mean in terms of whiteness or 21 feel. There's no necessarily mineralogical 22 relationship. 23 Q Okay. Well, if you want to dispute that one, 24 let's look at some others. 25 Let's do -- let's do this one.	Page 1270 1 source over many decades. No asbestos. 2 Q Right. So he got back, remembered he had 3 contaminated everything and told Johnson & Johnson; 4 right? 5 A I can only hypothesize, I can speculate, and 6 you can hypothesize or speculate, but it could well 7 have been that they went back and said: hey, we better 8 check that again. They checked it again and they came 9 out with a conclusion that there was no asbestos in the 10 product. 11 Q The precise opposite conclusion they had 12 reached two months earlier; right? 13 A Two months? Two days? 14 Q One month earlier? 15 A One month earlier. 16 Q Right? 17 A Yeah, because they probably re-evaluated ale 18 found out that they had misinterpreted their results. 19 Q Now, we also went over the fact that Dr Langer 20 edited his estimate of the amount of asbestos in 21 Johnson & Johnson's Baby Powder down; correct? 22 A Yes, correct. 23 Q Correct. But he never said it was asbestos 24 free, did he? 25 A I don't think that was the intent of his

Page 1271 1 article, his study. 2 Q In fact, he told J&J internally at a meeting: I 3 still think your stuff has chrysotile in it; correct? 4 A He did, and the reason for that is that Dr 5 Langer did not have the ability to distinguish between 6 chrysotile and chlorite talc. 7 They give the same reading on the x-ray 8 diffraction machine. 9 Q You recall from the memorandum, and I don't 10 want to have to dig it out, but he did it by x-ray -- 11 he did it by TEM? 12 A He did, yes. 13 Q Yes. Okay. All right. 14 TEM, you can't confuse chlorite and 15 chrysotile, can you? 16 A You need to be an expert to look at that, and 17 certainly those findings were never confirmed by any 18 other research. 19 Q Okay. So one of the exhibits that you were 20 shown was Exhibit 41, Ms Frost brought up the fact that 21 the talc used by Johnson & Johnson undergoes a 36-step 22 washing process; right? 23 A Yes. 24 Q Okay. 25 Now, Johnson & Johnson understands, and of	Page 1273 1 This has reference to our discussion in New 2 York regarding the proposed FDA regulations for talc 3 for food and food packaging materials wherein it is 4 stated that '... since talc can be processed to remove 5 asbestos-form particles, it is prudent to require that 6 talc which is to be used in the manufacture of food or 7 food packaging be free of asbestos-form particles'. I 8 recall the result of that study concluded that the talc 9 could not be processed to completely remove tremolite, 10 even by your most technologically advanced methods of 11 beneficiation". 12 If you'll just verify that I read that 13 correctly? 14 A You did. 15 Q All right. 16 So Johnson & Johnson has told these folks: we 17 can't get rid of elongate particles, including 18 tremolite; correct? 19 A The reference is to a discussion in New York 20 regarding the proposed FDA regulation, and the 21 regulation states that talc can be processed to remove 22 asbestiform particles. It's prudent to require that it 23 not be used. So the FDA are stating that, yes. 24 Q Right. The FDA had proposed a regulation to -- 25 and in that they had said it is possible to remove
Page 1272 1 course you and I talked yesterday about it, the fact 2 that, regardless of how many times they washed the 3 talc, elongate minerals still got through into the 4 final product; correct? 5 A You could certainly get talc shards coming 6 through and small granular talc coming through in the 7 fines, yes. 8 Q Including tremolite; correct? 9 A There may well be non-fibrous tremolite. 10 Q This will be Exhibit 255. 11 (Exhibit 255 marked for identification) 12 All right, sir. Because I'm just responding 13 to stuff on cross, I don't have copies, so I'll just 14 give you a copy. 15 MS FROST: Okay. 16 MR PANATIER: All right, sir. I'm going to 17 read this to you and then I'm going to give it to you; 18 okay. 19 A Okay. 20 Q Because I only have the one copy; okay? 21 A Okay. 22 Q This is a letter from February 8, 1973. It's 23 from Desert Minerals -- it says an American mineral 24 company, a Johns Manville affiliate -- to Bill Ashton: 25 "Dear Bill:	Page 1274 1 elongate minerals, including tremolite; correct? 2 A Well, that was the FDA's opinion. 3 Q That's right, and what Johnson & Johnson's 4 opinion was was no, you can't; right? 5 A Correct, yes. 6 Q Okay. 7 All right, sir. So you can hand that back. 8 In fact, I'll just give you the second page 9 and you can verify that Colorado School of Mines was 10 echoing the same sentiment? 11 A Yes. 12 Q Okay. 13 Now, if there was no elongated tremolite 14 present in the talc, they could have simply just said 15 that, but they did not; right? 16 A Well, the sentence states what it states. 17 Q In neither letter did they say: there is no 18 elongated tremolite in our talc, did they? 19 A Well, from Desert Minerals, Johnson & Johnson 20 has never used Desert Minerals talc. 21 So I'm not sure they would go to that level 22 of minute detail. 23 Q If they weren't using -- if they weren't using 24 Desert Minerals talc, then they would say: we don't 25 know what can be removed from your talc; right?

Page 1275 1 A Again, that's a hypothesis. If you're given a 2 quick one paragraph, two sentence reply, you give a two 3 sentence reply. You don't necessarily go to the 4 minutiae and what can and cannot be done. 5 So I'm not going to specify or hypothesize 6 what might or might not have been stated. 7 Q You know, a lot of times when I ask you a 8 question, and you say that's a hypothesis. 9 How many times did you tell Ms Frost that her 10 questions were hypotheses? 11 A Well, I'm not sure I got questions so much as 12 comment on the data. 13 Q Okay. 14 A I think you're providing me with a hypothesis 15 and, as a scientist as well, I'll actually pick up a 16 hypothesis and say: that's a good idea, or that's worth 17 testing. 18 Q Number 44 is McCrone Shower to Shower. You 19 were asked about that document; correct? 20 A Yes. 21 Q Okay? 22 A Yes. 23 Q All right. 24 You said: well, the final says there's no 25 asbestos, there's no chrysotile.	Page 1277 1 Q But they never said they misread this, did 2 they? 3 A They did not. 4 Q Okay. 5 Let's look at -- by thickness, I'm going to 6 pass on this one. 7 A Thank you. 8 Q I'm going to skip some of this stuff. Okay. 9 Okay. This is Exhibit 56, dated 10 September 25, '72, and this is a meeting about Shower 11 to Shower with the FDA; okay? 12 A Thank you. 13 Q And you were asked some questions about that. 14 And throughout that document, Johnson & 15 Johnson is reiterating, they are telling the FDA 16 there's no asbestos in Shower to Shower; correct? 17 A Yes. 18 Q Okay. 19 And we know, however, that as of September 3, 20 1971 -- what's the date of that? 21 A September 25, '72. 22 Q Okay, so a year earlier McCrone had identified 23 chrysotile in an additive that was going into Shower to 24 Shower; correct? 25 A They reported on a G-11 sample that they claim
Page 1276 1 Will you look at the flagged portion of the 2 final report from McCrone? I highlighted a little bit 3 up there. What does that say? 4 A "We have, however, found traces of chrysotile 5 in G-11 ..." 6 It says: 7 "... one of the additives to Shower to 8 Shower". 9 Q Right, so if something is an additive to Shower 10 to Shower, that means it's added to it; right? 11 A Yes. 12 Q And McCrone found chrysotile in it; right? 13 A At that point, they claim to have found 14 chrysotile, but if I may respond? 15 Q It was just a hypothesis? 16 A It was a finding of a confusion between sodium 17 sesqui citrate, which looks like chrysotile, and that's 18 misidentified. 19 Q Did they say that there? 20 A Not in this one, no. It's on a later one I 21 found that chrysotile can look like sodium sesqui 22 citrate in a McCrone report. 23 Q In general -- in general, chrysotile can look 24 like sodium sesqui citrate; correct? 25 A Correct.	Page 1278 1 to have found chrysotile, but -- 2 Q And did that -- was that reported to the FDA? 3 A But my recollection, and I don't have the paper 4 in front of me, is that a re-evaluation was done on 5 G-11 which did not confirm chrysotile. 6 That's probably something we could look in 7 the documentation. 8 Q Well, their point is there's no asbestos in 9 Shower to Shower. That's what they're telling the FDA; 10 right? 11 A They are. 12 Q We know that, what, a year later the FDA found 13 107,000 fibers of tremolite per gram in Shower to 14 Shower; correct? 15 A By the FDA method at that time. 16 Q Mmm hmm. Okay. So they did find it, right? 17 You always say: well, by that method they 18 found it; right? 19 A I'd like to -- before I comment on that, I'd 20 like to see that FDA report. 21 Q I am not going to dig every paper out of here. 22 A Okay. 23 Q If you want to we can do it, or I will try to 24 remember to do it at the very end; okay? 25 A Thank you.

Page 1279 1 Q It was an optical method? 2 A It was an optical method, yes. 3 Q Yes. It was optical microscopy, so it wasn't 4 XRD? 5 A Yeah. 6 Q All right? 7 A But by fibers, you cannot tell whether 8 tremolite is a fiber of tremolite or a simple talc 9 fiber. 10 And one of the issues around talc is that you 11 get fibrous talc which, as I have said before, talc is 12 normally a plate, and when you roll it up it looks like 13 that, and you get a misinterpretation that it's a 14 fiber. 15 So I just question the word "fiber" and 16 tremolite together. 17 Q You've done that now for four days. 18 So what you're doing now is you're now saying 19 maybe the FDA screwed up and they misidentified talc as 20 tremolite? 21 A I'm saying that, with a microscope, you cannot 22 identify tremolite with an optical microscope. 23 You can identify fiber, which under a 24 microscope could be a fiber of tremolite, could be a 25 fiber of any chemical, any other ingredient that comes	Page 1281 1 Q Okay. 2 A Not for asbestos, no. 3 Q You ever run a TEM? 4 A No. I said earlier I'm not a transmission 5 electron microscopist. 6 People who do that are experts in their 7 field. 8 Q Mmm hmm. 9 Have you ever done XRD? 10 A No, I've not. 11 Q All right. 12 A I said earlier that's an expert job that people 13 do that just as their job. 14 Q Okay. I'm going to read to you from the cover 15 of Exhibit 67, which is the FDA test that we looked at 16 two days ago, and then I'll let you look at it. 17 Description of the work: 18 "The 200 commercial cosmetic talc samples 19 evaluated by Dr Lewin will be tested for asbestos by 20 refractory optical microscopy. After installation of 21 the automated x-ray powder diffractometer and the 22 high-temperature differential thermal analyzer, 23 instrument analytical methodology will be perfected to 24 a degree that asbestos can be determined reliably and 25 speedily at concentrations of less than one per cent".
Page 1280 1 in a fibrous form. 2 But commonly you will find fibrous talc when 3 you look under a microscope because talc on edge looks 4 like a fiber. Talc when it's rolled looks like a 5 fiber. 6 So without seeing the detailed report again, 7 we just have it there were 107,000 fibers. 8 But tremolite -- to identify tremolite, you 9 need to go down to the next level of -- 10 Q I'm going to object to all of this as 11 non-responsive. 12 Let's take a break. I'm going to pull out 13 that study. 14 (Off the record at 4:17 pm) 15 (On the record at 4:18 pm) 16 BY MR PANATIER: 17 Q Are a microscopist? 18 A I'm not a microscopist. I have certainly used 19 optical microscopes in my working life. 20 Q Okay. 21 Have you ever looked at talc for asbestos? 22 A Not under a microscope, no. 23 Q Have you ever looked at -- have you ever looked 24 at -- in any substance for asbestos particles? 25 A No.	Page 1282 1 Okay? 2 A Yes. 3 Q So you're aware of the different techniques 4 he's using; right? 5 A Yes, yes. 6 Q He is using techniques that can identify the 7 mineral, isn't he? 8 A If he's using x-ray diffraction as an initial 9 screen. 10 Q And that's what he's saying. He's saying he's 11 using that, refractory optical microscopy, which also 12 can identify the mineral, can't it? 13 A It can, yes. 14 Q Okay. 15 And high-temperature differential thermal 16 analysis; right? 17 A Yes. 18 Q Which you guys actually had a spec for for 19 looking for chrysotile; correct? 20 A Yes. 21 Q And then he says, for number 84 -- we saw this: 22 "Sample # 84 contained 107 fibers of 23 tremolite/actinolite per mg". 24 And a milligram is one one thousandth of a 25 gram; right?

Page 1283 1 A Yes. 2 Q In fact, with Ms Frost, you looked at the FDA 3 re-evaluation of the Lewin results; right? 4 A Yes. 5 Q And when they did the FDA re-evaluation of his 6 results, they actually found some tremolite -- they 7 found trace tremolite in the medicated powder as well, 8 didn't they? 9 A They found trace tremolite, yes. Trace. 10 Q Yeah, I don't even think I have that on the 11 board, but I assume Johnson & Johnson takes issue with 12 that finding, too? 13 A There's no record on the Lewin finding that it 14 was fibrous tremolite. 15 Q Okay. 16 A But my understanding is they found tremolite, 17 and that was not unusual to find traces of non-asbestos 18 tremolite. 19 Q Now, you have been very clear about this 20 distinction from your perspective between non-asbestos 21 tremolite or massive form tremolite and asbestiform 22 tremolite; right? 23 A Yes. 24 Q Okay. 25 And regardless of what they were finding	Page 1285 1 A We reviewed that this week. 2 Q We certainly did. 3 Now, you said: I think they must have spiked 4 it, right, to put chrysotile in it? 5 A You would -- to show a decent reduction, you 6 would need to spike it. 7 Q Do you know whether they actually say in their 8 methods that they actually spiked it? 9 A That's a -- looks like a 30 or 40 page report. 10 Q Mmm hmm. 11 A But, from memory, I think they put in 12 2 per cent to see if they could reduce it. 13 Q Can you find that for me? 14 A It's a memory. I can't remember. 15 Q Yeah. 16 (Pause). 17 A Okay. On that report I cannot find that they 18 spiked it. 19 There was certainly a report that I have read 20 where they did spike with either 1 or 2 per cent to 21 show a reduction. 22 But in this particular report it doesn't 23 quote that they've deliberately added or spiked it with 24 chrysotile. 25 Q Okay, and let's speak specifically, because we
Page 1284 1 there in the Vermont mine and when they were using the 2 Italian, Johnson & Johnson expended funds to ask Dr 3 Pooley to find two different ways to get rid of 4 chrysotile and tremolite in Vermont talc; correct? 5 A As a hypothetical question, they did. 6 So if there were -- tremolite were present, 7 they asked him to find out how to reduce it, yes. 8 Q Right, and they sent him samples of the Vermont 9 talc; correct? 10 A Correct, yes. 11 Q And they also asked him to find out a way how 12 to destroy chrysotile tremolite in it; right? 13 A In talc, yes, and I've been to Dr Pooley's lab. 14 He would -- he would have the tremolite as well. 15 Q Okay. 16 Now, Exhibit 69 is the reagent system that 17 they were trying to set up, and in the document it says 18 that there were conclusions: 19 "Chrysotile fiber suppression was indicated 20 while using ... n-butanol-citric acid system". 21 And they actually have the results showing 22 the reduction of chrysotile through use of each 23 reagent; correct? 24 A Correct, yes. 25 Q Okay.	Page 1286 1 should do that -- me, as a pseudo-scientist and you as 2 an actual scientist; right? 3 A Yes. 4 Q And so when you say that you're aware of a 5 reference to somebody spiking a sample, you can't even 6 say it's with regard to what they were doing here. 7 There are discussions of spiking samples in 8 order to determine a limit of detection with certain 9 tests; right? 10 A Yes. 11 Q And there are, for instance, we saw that 12 yesterday in the CTFA round robin, they had spiked some 13 samples to see if people could detect it using J4; 14 right? 15 A Correct, yes. 16 Q Okay, but you don't have -- there's nothing you 17 can point to here. 18 You've had four days with the Johnson & 19 Johnson lawyers to find something that says those 20 samples were spiked, and you haven't, have you? 21 A No. 22 Q Okay. 23 A But, as you say, there are 170,000 documents, 24 and I've not found the matching one. 25 But if I were running a study, I would be

Page 1287 1 looking to spike it, and I would also be looking to 2 ensure that if it did claim to be chrysotile, it really 3 was, because they describe it as probably chrysotile, 4 probably chrysotile, chrysotile, chrysotile. 5 So it kind of implies that it wasn't 6 confirmed. 7 But that's my opinion. 8 Q Well, two say chrysotile and two say probably 9 chrysotile, which would mean, sir, that two were 10 confirmed as chrysotile and two were probably 11 chrysotile; right? 12 A That's what it states. 13 Q And you know who did that test? 14 A Was it McCrone? 15 Q It's McCrone. 16 A Yes. 17 Q Good guess. 18 Okay. You can set that aside, sir. 19 The next document is 256. 20 (Exhibit 256 marked for identification) 21 This is regarding Mr Lewin. You spent some 22 time talking about Mr Lewin. 23 And they're talking here about him -- I'm 24 going to hand it to you again, I didn't make copies 25 because these were sort of unanticipated.	Page 1289 1 respectively. 2 Dr Estrin stated that these products which 3 were analyzed by Dr Lewin and the CTFA committee were 4 obtained by Dr Lewin prior to 1973 and are no longer 5 representative of commercially available cosmetic talc 6 products". 7 Meaning that we're still talking about the 8 original Lewin samples; correct? 9 COURT REPORTER: Sorry, could I just have a 10 minute? 11 MR PANATIER: Yes. 12 (Off the record at 4:29 pm) 13 (On the record at 4:31 pm) 14 BY MR PANATIER: 15 Q So the only point there is, first of all, 16 Lewin, all he did was XRD; right? 17 A Correct. 18 Q Okay, and they're saying for XRD the CTFA 19 agreed with Lewin's read on those early samples on 14 20 of 15 of them; right? 21 A Yes. 22 Q Okay. You can set that aside, sir. 23 Okay. So there was an exhibit which was the 24 '73 report for -- I think it was Exhibit 239, the 25 second Lewin report, the final report.
Page 1288 1 But it says: 2 "Dr Estrin requested this meeting ..." 3 Now, Estrin is CTFA; right? 4 A Yes. 5 Q "... for the purpose of discussing the results 6 obtained from the analysis of 15 coded samples of 7 cosmetic talcs that had been sent to the CTFA by the 8 Division of Cosmetics Technology on November 4, 1975". 9 So that's from the FDA; right? 10 A Yes. 11 Q Okay. 12 And it just says here: 13 "The results of the CTFA analyses by x-ray 14 diffractometry ..." 15 And that's XRD? 16 A Yes. 17 Q "... were, with the exception of one sample 18 ..." 19 So 14 of 15: 20 "... in general agreement with those obtained 21 by Dr SZ Lewin. However, the results of the optical 22 microscopic examinations of these samples by CTFA and 23 DCST could not be compared due to the usage of 24 differing definitions as to what constitutes a fiber; 25 i.e. length to diameter ratios of 5 to 1 and 3 to 1	Page 1290 1 But you're saying the cover page wasn't on 2 it? 3 MS KAGAN: Correct. 4 BY MR PANATIER: 5 Q So apparently it didn't have a cover page. So 6 we'll make that 257. 7 (Exhibit 257 marked for identification) 8 Okay. 9 All I want to do here, because a lot of time 10 was spent on Dr Lewin and his results. 11 So Alfred Weissler, who's the Acting Director 12 for the FDA in 1973, in this letter he says under 13 number 2: 14 "I chose Dr Lewin for this work because he is 15 an internationally-recognized expert on mineralogical 16 chemistry and because he is a member of the academic 17 community and therefore likely to be impartial in a 18 confrontation between industry and government ... 19 [Therefore], his competence had previously been 20 recognized by industry (by virtue of their own use of 21 him as a consultant) which appeared to confer a 22 desirable immunity against possible industry attacks on 23 the validity of the results". 24 That prediction turned out to be wrong. His 25 results are pretty well attacked, weren't they, sir?

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1 A They were, and with good reason.

2 Q Well, as we saw from the previous memorandum,

3 the results that were looked at between the CTFA and

4 Lewin were in agreement 14 of 15 times; correct?

5 A On second review, although we read this

6 sentence an hour ago: however, Dr Lewin points out on

7 page 2 paragraph 1 of his table that chrysotile he has

8 identified in commercial products shows several

9 significant differences from classical chrysotile in a

10 location of x-ray diffraction, et cetera.

11 So even Dr Lewin is saying that he's having

12 difficulty identifying chrysotile.

13 Q He's saying it doesn't look like commercial

14 chrysotile; right?

15 A It doesn't look like chrysotile, yeah.

16 Q No.

17 A Classical chrysotile, sorry.

18 Q Right.

19 And commercial chrysotile, something that is

20 intentionally added to a product such as an asbestos

21 product, is going to look a lot different than

22 naturally occurring chrysotile; correct?

23 A Actually used the word "classical chrysotile".

24 Q Okay. That's fine. Classic chrysotile; right?

25 A He said the samples, the chrysotile he

Page 1292

1 identified doesn't look like chrysotile, basically.

2 Q And what I'm asking you is: you don't expect

3 chrysotile as it crops up as a naturally occurring

4 mineral as a contaminant of something like talc to look

5 like it looks when it comes out of a chrysotile mine;

6 correct?

7 A I would expect so.

8 We've seen those photomicrographs earlier

9 this afternoon of what chrysotile looks like under a

10 microscope, and it should still look the same whether

11 it's in a sample of powder or a sample of flour, or

12 whatever it may be contaminated by.

13 Q So --

14 A Chrysotile is chrysotile.

15 Q So if we have a giant pile of chrysotile, like

16 you were shown in the photo by Ms Frost, that's what we

17 should see if we find it in talc?

18 A The photographs we were showed about 50 or 100

19 fibers of chrysotile. They have a definition, they

20 look like chrysotile, and they have an x-ray

21 diffraction pattern and a scanning or transmission

22 electron microscopic picture that enables a real

23 expert, and obviously that's important, to identify if

24 it's chrysotile or not chrysotile.

25 Q Do you know what he meant by "classic

Page 1293

1 chrysotile", sir?

2 A I don't. It's not a normal scientific term.

3 Q This is Exhibit 258.

4 (Exhibit 258 marked for identification)

5 What is the date of that memo?

6 A It's August ...

7 Q Here, let me hand it to Sharla first.

8 There you go, sir. August 10 -- is that '80

9 or '83?

10 A Eighty-three. August 10, 1983.

11 Q All right, and what is that document talking

12 about?

13 A It's called Quality Assurance Testing of

14 Windsor Grade 66 Talc and Baby Powder, Formula 499.

15 Q Right.

16 So this is in the '80s, and then I

17 highlighted a phrase there, but what does the whole

18 sentence of that phrase say?

19 A "Due to the excellent analytical --"

20 Sorry, I'll start again:

21 "Due to the excellent analytical quality

22 history with talc we have accepted Windsor's

23 C[ertificate] of A[nalysis] on most of the

24 specification parameters, with only an infrequent audit

25 conducted at Royston".

Page 1294

1 Q Okay.

2 If you turn the page, so this would be the

3 audit program for when they actually get the talc to

4 the place where it's bottled; right?

5 A Not necessarily, no.

6 Q Well, it said -- on the front it said, "when we

7 get it to Royston"?

8 A Okay.

9 Q Is that where they bottle it?

10 A It's bottled in Royston.

11 You can do an audit of the talc after it's

12 bottled or before when it's received in bulk shipment

13 on the -- on the rail cars.

14 You can still do finished product audit in

15 the pots that are little half pound pots.

16 Q Okay.

17 A I mean, that's not clear from here.

18 Q Okay.

19 What does that second page say at the top?

20 A Specification Requirement. First item is

21 asbestos.

22 Q And what is the frequency of the audit?

23 A Tested by frequency. It says research and

24 audit.

25 Q Okay.

Page 1295 1 So the only time that would be tested for 2 asbestos is by an audit that someone decides to do so, 3 or for research; correct? 4 A Well, it implies both research and by audit. 5 Q Right. 6 A Tested by frequency -- sorry, tested by 7 research. Frequency is audit. 8 Q All right. 9 A That's clear. 10 Q All right. 11 And how often would an audit occur? 12 A An audit is something that you'd do on the 13 mine. It's -- the intention, I believe, is quarterly 14 for the mine audit. 15 An audit on finished product, once it's been 16 bottled, that's after it's been audited off the rail 17 car, that is not specified on here. 18 Q Well, the word they used to describe the audit 19 is "infrequent"; right? 20 A Yes. 21 Q Can you hand that back to me, please? 22 A Yes. 23 Q The other items outside of asbestos, they are 24 per rail car or a daily composite; right? 25 A Yes.	Page 1297 1 level of assurance. 2 Q And as we sit here today on Day 4, you can't 3 ever having recalled that Johnson & Johnson ever 4 rejected a lot of asbestos for -- a lot of talc for 5 asbestos content; correct? 6 A I've never seen that in any documentation or 7 literature. 8 Q Okay. 9 All right, sir. This is dated March 18, 10 1976. The subject is The Mt. Sinai Samples are Old. 11 (Exhibit 259 marked for identification) 12 Okay. 13 So take a peek at that, and if you'll go down 14 to the one that is highlighted, can you read that out 15 loud for us? 16 A Well, this talks about Colgate. 17 "Colgate has identified a sample of Cashmere 18 Bouquet as being pre-1971. Colgate [has] changed talc 19 sources in 1970 and ... reported the new talc does not 20 contain asbestos." 21 Q Do you know what talc Cashmere Bouquet or 22 Colgate used before 1970? 23 A I do not. 24 Q It was Italian 1615. 25 That's the same stuff you guys used; right?
Page 1296 1 Q Now, the second Langer paper from 1976, or the 2 second Langer research on consumer talcums from 1976, 3 you talked about that; do you recall? 4 A Yes. 5 Q And you read some documents where they had 6 found asbestos in different brands, including Cashmere 7 Bouquet; right? 8 A That's what it read, yes. 9 Q And you pointed out that they hadn't found it 10 in Johnson's Baby Powder during that test; correct? 11 A I believe so. 12 Q Okay. 13 So my question is: you have taken issue with 14 Dr Langer's abilities, methodology, you've already done 15 it with me today. 16 So when he finds the asbestos in your product 17 and says there is asbestos there, I take it you're 18 saying we shouldn't trust him, you disagree with him; 19 but when he doesn't find it, we should agree with him? 20 A No, I don't say that at all. 21 We may be comparing two different sources of 22 talc. It could well be that the Johnson & Johnson 23 product, having audited the mine, having taken samples 24 of the mine, taken samples from the factory, taken 25 samples of the finished product, you develop a high	Page 1298 1 A Italian 00000. 2 Q Which we have agreed is the exact same thing as 3 1615 AGIT; correct? 4 A Well, you're telling me that. I've not seen 5 the specification for 1615, but I'll take your word for 6 it. 7 Q We saw three documents yesterday, and this 8 perhaps -- you've seen a lot of documents, in fairness; 9 okay. 10 A Yes. Thank you. 11 Q We saw one that said 00000 is the exact same 12 thing as 1615 AGIT, which then becomes the exact same 13 thing as Supra. 14 Do you recall that? 15 A Yes, that's right, yeah. 16 Q Okay. All right. 17 So 00000 is 1615; correct? 18 A Yes. 19 Q And if Cashmere Bouquet was using 1615 during 20 those years, which I will ask you to assume, then that 21 was the powder that was found to be containing asbestos 22 by Langer at that time, if what I'm saying is correct? 23 A Yes. 24 Q Okay. All right, sir. You can set that aside. 25 This will be Exhibit 260.

Page 1299 1 (Exhibit 260 marked for identification) 2 This is a memo from March 30, 1976, telephone 3 conversation with FD Pooley, and for context, and then 4 I'll show it to you, it says: 5 "Langer has spent two days in Pooley's 6 Laboratory in Wales re-examining the OTC products 7 reported in the Washington Post. According to Pooley, 8 Langer agrees now that the level of amphibole reported 9 were too high. For example, Langer now feels that the 10 Cashmere Bouquet Body Powder has 4% amphibole (in line 11 with McCrone and Pooley) and not 20% amphibole". 12 Can you take a look at that? 13 A Yes, and, in fact, the sentence goes on: 14 "There ... [was] evidently still disagreement 15 between Langer and Pooley as far as the products that 16 Langer reports low levels of amphibole and Pooley finds 17 none detectable levels". 18 Q Okay. All right. Sir, I want to get you done 19 today; okay? So you got to just answer the questions I 20 ask, please. 21 A I'll answer the question. 22 Q Okay. Thank you. 23 A I agree with what you've highlighted. 24 Q Okay. Thank you. 25 And so whatever was in Cashmere Bouquet at	Page 1301 1 amount of asbestos in the cosmetic versus the 2 industrial. 3 Is that correct? 4 A As fines, yes. 5 Q Okay. 6 A Yes. 7 Q Now, did Johnson & Johnson ever ask McCrone to 8 re-evaluate those reports? 9 A No. 10 Q Okay. 11 A But we've described them as fibers is rather 12 high. What we've not stated that's coming out of that 13 report, at least it's not on the board, is whether 14 those fibers were asbestos fibers or talc fibers. 15 Q Here. Let me help orient you back to this, 16 because I know it's been a long week, but this is what 17 they said. 18 Fibers of asbestos and confirmed asbestos. 19 You can't get more clear than that, can you? 20 A And that's in the industrial talc. 21 Q No, it's not. 22 We can break those out again. 23 If you're going to decide to change -- 24 A No, I'm just -- I mean, it was three days ago, 25 so we're looking at that.
Page 1300 1 that time, in that early production pre-'71, Langer, 2 Pooley and McCrone all agree it's 4 per cent amphibole; 3 correct? 4 A Yes. Amphibole. Yes. 5 Q All right. 6 In Exhibit 220 and 221, you said that you 7 believed that those were -- those designations there, 8 the WMI, were industrial talcs? 9 A That was my -- that was my feeling, yes. Yes, 10 Grade 76, yes. 11 Q Okay, because it wasn't Grade 66; right? 12 A Yes. 13 Q Okay. 14 Now, we actually have a comparison McCrone 15 did between some industrial talcs and some cosmetic 16 talcs; correct? 17 A Yes. 18 Q Right. Here I'll go back up to the board. 19 So that was these two memos in middle and 20 late 1975. 21 Any time they looked at the fines, which we 22 talked about the fines versus the sediment, when we 23 looked at the fines, there were more than two times the 24 fines for asbestos, either confirmed asbestos or fibers 25 of asbestos -- there were more than two times the	Page 1302 1 Q Okay. Sir, do we -- can you agree that in 2 these two reports it said that there was confirmed 3 asbestos both in the fines and in the sediment? 4 Can we agree to that, or do I have to get the 5 paper out? 6 A No, we can agree to that. 7 Q Okay. 8 And can we agree that in the next report it 9 said there were fibers of asbestos in the fines and in 10 the sediment? Can we agree to that? 11 A We can agree to what was written in that 12 report, yes. 13 Q All right. 14 So what we know when we had a direct 15 comparison of cosmetic talc and industrial talc by 16 McCrone, was that there was more asbestos in the 17 cosmetic talc than there was in the industrial; 18 correct? 19 A That is what's reported. 20 Q Okay. We can set that aside. 21 This dead air is me skipping stuff, so that's 22 good news. 23 All right. You were asked by Ms Frost about 24 something called GRAS, which is Generally Regarded As 25 Safe that is a designation the FDA uses; right?

Page 1303 1 A Correct. 2 Q They have never designated talc for use in 3 cosmetics as GRAS, have they? 4 A They have designated talc for use in 5 pharmaceutical applications and food applications as 6 GRAS. 7 Q Right. They have never done so in cosmetics; 8 correct? 9 A No. 10 Q In fact, in their assessment of whether or not 11 to say that talc is generally recognized and safe and 12 something you might ingest, they did not conduct an 13 inhalation assessment, did they? 14 A They did not. 15 Q Okay. 16 When you said that early on Johnson & Johnson 17 had a general specification, which we've seen, that 18 says you don't want any particulate really, but they 19 said you don't want any needle-like particulate in it; 20 right? 21 A Correct, yes. 22 Q Because when you're making a body powder, you 23 don't want anything like that you can feel; right? 24 A Correct. 25 Q But you agree, sir, that fibers of asbestos,	Page 1305 1 Q And at that time, the specification doesn't 2 specify any type of regular testing for asbestos, 3 obviously, since it doesn't even mention asbestos? 4 A No. It specifies regular testing for absence 5 of acicular needles. 6 Q In fact, the testing -- well, you tell me what 7 type of testing does it say they should do regularly 8 for testing for acicular needles? 9 A It's a microscopic test. You look under the 10 microscope for a sample of the product and look for the 11 absence of acicular needles. 12 Q Well, here is what it says: 13 "Acicular needle-like crystals. The latter 14 two are undesirable in the talc. The presence of large 15 acicular crystals of heavy cross section in any amount 16 are sufficient grounds for rejection of the talc. The 17 presence of small amounts of pointed crystals which are 18 still platelets is not too serious, and distinction 19 should be made between the two conditions". 20 So that's what it says; right? 21 A Yes. 22 Q I'm just looking here, I mean, how often were 23 they supposed to test it, do you know? 24 A I think, from memory, it does specify how 25 many -- they used fifty pound sacks, and I'm speaking
Page 1304 1 okay, if they were hypothetically present, as you've -- 2 we will put that caveat on it so we can talk about 3 it -- if those fibers are present and they're there at 4 5, 10, 20 microns long, no one is going to feel that, 5 are they? 6 A I don't know. It's an interesting question 7 because the human skin can basically pick up the 8 trigger for one nerve, and a nerve ending in the human 9 skin is incredibly fine. 10 So it's a physiological question. You'd need 11 to ask a physiologist. 12 Q Okay. So you don't know the answer? 13 A I do not know the answer. 14 Q Okay. 15 A A physiologist may well know the answer. 16 Q All right. 17 The 1946 specification, which was I think 18 224 -- Exhibit 224, it doesn't have any -- it doesn't 19 mention asbestos at all; correct? 20 A No. 21 Q And it doesn't mention asbestiform; correct? 22 A No? 23 It mentions acicular. 24 Q Right, which is needle? 25 A A general description for those structures.	Page 1306 1 from memory, but I'm sure it does state how many 50 2 pound sacks were evaluated and when, but it was part of 3 the process, yes. 4 Q I'm just looking at their examples of the 5 photomicrographs. 6 A Mmm hmm. 7 Q And they're all at 330 times. 8 A Yes. 9 Q Okay. 10 Is that what they were supposed to be doing 11 when they did any sort of the periodic testing? 12 A Well, that would be a minimum. 13 I mean, I've used regular microscopes many, 14 many, many years and 350, 1,000, those are typical 15 levels at which you look under a microscope. 16 Q I'm not asking what you look at, sir. 17 A Well, 350 would be what is on that 18 specification. 19 Q I am looking -- I am asking a question about 20 what they did, not what you might have done. 21 A Okay. 22 Q So the example they have here is 330 times. 23 A Yes. 24 Q There was no specification to look any closer 25 than that; correct?

Page 1307 1 A Well, the specification gives the examples, as 2 published in a journal, where they use 350 times as 3 being the ideal that would pick up needle-like 4 crystals. 5 Q Here's all I found, okay. The examples they 6 gave are at 330 times. 7 Now, we can agree if there's asbestos 8 present, you could look at something at 330 times under 9 a microscope and you could very well miss it; correct? 10 A The view that I've spoken to microscopists is 11 that if you look at enough fields of view, enough 12 vision, you spend enough time looking at the microscope 13 slide, you should pick it up. 14 Q What's the minimum width of a chrysotile fiber 15 that you can see with optical microscopy? 16 A It's in -- it's in fractions of a -- fractions 17 of a millimeter. 18 I can't answer that question. 19 Q So what it says here is under 6.4 it says 20 Microscopic Structure: 21 "Take a small quantity of talc on the tip of 22 a spatula and place on a glass microscope slide. 23 Distribute in a very thin layer by rubbing and smearing 24 it gently using the flat side of another slide. Insert 25 slide under microscope, and examine talc crystals at a	Page 1309 1 the sensitivity of the tool is key; correct? 2 A It is, yes. 3 Q And if we had said, look, let's look at the -- 4 let's look at the last 35 years, going back to 1975 for 5 Johnson & Johnson talcs, generally, we have a bi-weekly 6 J4 test and a quarterly TEM test, generally; is that 7 right? 8 A Yes. 9 Q Okay. 10 There are some caveats. There are -- 11 sometimes it might change up a little bit. 12 A Yeah. 13 Q But that's basically what we have; right? 14 A Yes. 15 Q Okay. 16 And the TEM method has always been the 7024 17 TEM; correct? 18 A Yes. 19 Q And the other method has always been J4-1? 20 A Yes. 21 Q Now, another -- another thing you brought up 22 was this thing was USP, US Pharmacopeia; right? 23 A Yes, we discussed that. 24 Q And you said that USP was another way that your 25 talc got tested? I wasn't sure?
Page 1308 1 magnification of 150 ..." 2 So that's the spec? 3 A That's the spec. 4 Q Right? 5 A Yes. 6 Q So how much asbestos can you see at 150 times? 7 A You would see large fibers of asbestos. 8 Q You wouldn't see the small ones, would you? 9 A Not by that method, no. 10 Q Okay. 11 The next time there is any specification or 12 any time that is modified is when they start to develop 13 J4; correct? 14 A Yes, that specific, although, as we've 15 discussed, retrospective reviews of samples from the 16 late 1940s by the best methods did not indicate any 17 asbestos. 18 Q Well, did Pooley list what methods when he used 19 when he said he went back to '49? 20 A Yes, he used exactly the same methods as he 21 used in the main review of the mines. 22 Q What were those? 23 A From memory, differential -- sorry, x-ray 24 diffraction and electron microscopy. 25 Q When you're looking for something very small,	Page 1310 1 A No. The United States Pharmacopeia offers a 2 test system for the analysis of talc for asbestos. 3 Q All right. So what does that have to do with 4 Johnson & Johnson? 5 A Well, the two are virtually identical, in the 6 sense that the USP has a stage one using x-ray 7 diffraction, and if there's cause, you can move to a 8 stage two, which is transmission electron microscopy. 9 Q Okay. 10 A And that's -- that meets the USP requirements. 11 Q So USP requires transmission electron 12 microscopy? 13 A As a second stage. 14 Q I think I have it. 15 I think it's in your pile. I think I wasn't 16 planning to use it. 17 Here it is. Okay. Great. 18 So this is Exhibit 229, which you've spoken 19 about, and on the second page is the procedure for 20 absence of asbestos, which you say is a two-step 21 process of XRD and TEM? 22 A Yes. 23 Q Take a look at that. 24 A Yes. 25 Q All right.

Page 1311 1 Now, the first step is a choice between 2 infrared absorption and XRD; right? 3 A Correct, yes. 4 Q If it's non-detect, then you can pass it; 5 right? 6 A Under USP system, yes. 7 Q And CTFA is similar because under CTFA if you 8 don't see it with XRD, you get to pass it and say no 9 asbestos; right? 10 A Under that system, yes. 11 Q Okay. 12 A Under the CTFA protocol, yes. 13 Q Right. 14 And same with this one. If you pass step one 15 by XRD or infrared absorption, you get to say pass, no 16 asbestos; right? 17 A Yes. 18 Q It doesn't mean there's no asbestos, though; 19 right? 20 A No. That's why it's a good idea to move onto 21 step three. 22 Q Right. 23 A Which is optical microscopy. 24 Q Right, because the problem with infrared 25 absorption is, well, infrared absorption and XRD, is	Page 1313 1 A No, I've never seen the name. 2 Q Did you know that Johnson & Johnson put him up 3 or nominated him for this panel? 4 A No. 5 Q Okay. All right. 6 The abstract says: 7 "In response to a request from the US ... 8 [FDA] through the FDA Monograph Modernization Task 9 Group, the USP Talc monograph is being modernized to 10 ensure that the tests for asbestos have adequate 11 specificity". 12 Did I read that right? 13 A You did. 14 Q Okay. 15 At the end of there it says: 16 "The USP Talc ... [Experts'] recommendation 17 for revision of the test for Absence of Asbestos will 18 include omission of the infrared spectroscopy test and 19 inclusion of a revised x-ray diffraction procedure, in 20 combination with one or more microscopic evaluations 21 (polarized-light microscopy, ... [TEM] or ... [SEM])". 22 Right? 23 A Yes. 24 Q All right. 25 Go ahead and go to the next page.
Page 1312 1 you've got a relatively high detection limit, meaning 2 not as sensitive as something like optical or TEM; 3 right? 4 A No, you might well pick up other materials like 5 chlorite that they're no concern, but they confuse the 6 issue. 7 Q Right, but you can miss asbestos; correct? 8 A You might do, yes. 9 Q All right. 10 Does USP require TEM, as you said, sir? 11 A No. Optical microscopy. 12 Q All right. Okay. You can set that aside. 13 So this will be Exhibit 261. 14 (Exhibit 261 marked for identification) 15 Sir, can you see that this is a -- what's 16 called a Stimuli to the Revision Process, the 17 Modernization of Asbestos Testing in USP Talc? 18 A Yes. 19 Q Do you see that there's two individuals there, 20 Julie Pier; do you know who she is? 21 A No, I've never heard the name. 22 Q She works for a company called Imerys. You 23 know who that is; right? 24 A Yes. 25 Q And Drew Van Orden; do you know who that is?	Page 1314 1 It says: 2 "The infrared spectroscopy (IR) and ... [XRD] 3 methods, as currently written, can lead to 4 false-negative results, which could allow talc samples 5 with asbestos contamination to pass the Absence of 6 Asbestos test in the USP Talc Monograph". 7 A false negative means something is there, 8 but you say it isn't; right? 9 A That's what it states, yes. 10 Q Likewise, it says -- down below that it says: 11 "Even after applying the current USP 12 microscopy method, the analyst cannot rule out the 13 presence of hazardous fibers in a sample of talc. In 14 addition, the lack of identification procedures in the 15 optical microscopy section of the method could lead to 16 false-positive results". 17 Right. 18 A Correct. 19 Q "This underscores the need to modernize the 20 current monograph for two reasons: 1) both the IR and 21 XRD methods have relatively high detection limits for 22 asbestos ..." 23 And Johnson & Johnson agrees with that; 24 right? 25 A Correct.

Page 1315 1 Q "... and ... there is no known 'safe' level of 2 asbestos exposure". 3 And you agree with that; right? 4 A That's what it states. 5 Q Do you agree with it? 6 A I think that's based on current knowledge. 7 Q Okay. 8 Now, go ahead and turn to page 9 of 21, okay, 9 and you can see that they have advantages and 10 disadvantages of each method; right? 11 A They do. They review each of the test 12 processes and describe the value or where they've got 13 weaknesses and failings. 14 Q Right. So under IR it says: 15 "Cannot distinguish asbestos from 16 non-asbestos forms of the same mineral ... [and] 17 detection limit is unknown". 18 Right? 19 A Yes. 20 Q For XRD: 21 "Limit of detection may be too high for 22 public health and regulatory purposes". 23 Right? 24 A Yes. 25 Q And then:	Page 1317 1 Q Okay. 2 Let's turn, please, to page 16 of 21 at the 3 top. The middle paragraph: 4 "There are currently no established safe 5 levels of asbestos exposure. This underscores the 6 efforts of the Talc EP to identify strategies and 7 methods for reducing the potential for asbestos 8 contamination of talc to the lowest feasible levels. 9 More effective analytical approaches are needed to 10 achieve much lower levels of detection than those 11 traditionally used to evaluate asbestos contamination 12 of bulk materials. The existing methods are not 13 necessarily adequate for assessing the potential health 14 risks of these materials. Research by the US EPA and 15 others has shown that disturbance of matrices (e.g., 16 soil, vermiculite insulation) containing asbestos 17 concentrations identified by the lower detection limits 18 of PLM -- well below 1% asbestos by weight, the limit 19 historically used by the US EPA to define an Asbestos 20 Containing Material -- can generate potentially 21 hazardous exposures (30-32). This issues, while not 22 currently evaluated, may be particularly relevant for 23 the talc used in powders and cosmetics". 24 Okay. Have you read this before, sir? 25 A I've not, no.
Page 1316 1 "May give false-negative result if used as a 2 screening method". 3 Which they mention earlier; true? 4 A Yes. 5 Q Okay. 6 Under Optical Microscopy: 7 "Particles of milled material may be 8 disaggregated and inconsistent with typical asbestos 9 morphology". 10 Now, that means, right, sir, that you might 11 see something that doesn't look like asbestos, but it's 12 been disaggregated; right? So you may not recognize it 13 as asbestos; true? 14 A It's possible. It depends on the skill of the 15 operator. 16 Q Okay. 17 "Particles of milled material may be below 18 the resolution limit." 19 Meaning the detection limit; right? 20 A Correct. 21 Q And then, lastly: 22 "Limit of detection may be too high for 23 public health and regulatory purposes". 24 Right? 25 A That's what it states.	Page 1318 1 Q Okay. 2 A No. 3 Q Next page: 4 "Also, exposures to certain nonregulated 5 mineral such as fibrous forms of winchite, richterite, 6 and antigorite are of concern. Recent studies have 7 found that such exposures are associated with increased 8 risks of mesothelioma and other asbestos-related 9 diseases ... The USP Talc Expert Panel agrees that 10 exposure risks can and should be mitigated by revising 11 USP methods, which will then allow for much lower 12 detection limits for asbestos, and if warranted, other 13 minerals". 14 Now, you haven't seen this before, but those 15 general comments, do you agree with those? 16 A They're a general summary of current opinion. 17 Q All right, sir. You can set that aside. 18 You discussed the FDA 2009 analysis of 19 various talcs. Do you recall that? 20 A We did discuss that, yes. 21 Q Now, a few questions about that. 22 First, what do you know about the lab that 23 did the work on behalf of the FDA? 24 A The FDA report said -- I believe it was AMA, a 25 laboratory.

Page 1319 1 Q Okay. 2 Do you know whether or not the actual 3 microscopist that did that work is now a paid 4 consultant for cosmetic talc manufacturers? 5 A I don't know the answer to that question, no. 6 Q All right. 7 Do you know, generally speaking -- I think we 8 talked about it on Day 1 -- that, in order to increase 9 your sensitivity when doing TEM, you take a fixed 10 amount of material, you disperse it and then you put it 11 on TEM grids? 12 A Yes. 13 Q Right? 14 A Yes. 15 Q And each of those grids has tiny grid openings 16 that you scan; right? 17 A Yes. 18 Q And, as with anything, the more of those grid 19 openings you scan, the greater your sensitivity; 20 correct? 21 A Correct. 22 Q Right. 23 I think we saw that Blount said she did 24 several hundred grid openings when she did her paper; 25 correct?	Page 1321 1 looked at ten grid openings per sample, that would be 2 less sensitive than looking at a hundred? 3 A Yes. In general, the more grid openings you 4 look at, the greater the sensitivity. 5 Q Okay. 6 Exhibit 235 was the material analysis report 7 from Cyprus, I think in the early '90s -- '92; is that 8 right? 9 A Yes. Yes, I've seen this. 10 Q Okay, and it just says that it passes the 11 asbestos test; right? 12 A Yes. 13 Q Now, that would be one that is done by the 14 supplier; correct? 15 A Yes, it's the rail car evaluation. 16 Q And they're required to do J4-1 on that; right? 17 A Yes. 18 Q Okay. 19 Because that's not a quarterly test. That's 20 just your regular test; right? 21 A Yes. 22 Q All right. 23 And so you said a "rail car test". 24 Now, I asked you earlier, generally, you had 25 a test -- composite test every two weeks and then a
Page 1320 1 A Sure, yeah. 2 Q That would give you a higher sensitivity than 3 just doing a few grid openings; right? 4 A Yes. 5 Q Okay. 6 Or, because people sometimes say lower 7 sensitivity is better, right, higher would be less 8 sensitivity; right? 9 A Yes. 10 Q Okay. 11 So the more grid openings you look at, the 12 greater the sensitivity? 13 A Yes. 14 Q All right. 15 Do you know how many grid openings that the 16 contractor looked at for the FDA test in 2009? 17 A I don't recollect reading that in that report. 18 Q Okay. 19 In fairness, it's not in that report. So I'm 20 just asking if you know from anything else? 21 A Good. No, I'm glad my memory isn't going. 22 Q No. 23 A No, I don't recollect reading that. 24 Q Okay. 25 If -- can we generally agree that, if he only	Page 1322 1 quarterly TEM. You mentioned a rail car test. 2 Are you now saying that all the rail cars 3 were also tested by J4? 4 A No, I just used the word "rail car test" as 5 being the finished product that's shipped in bulk from 6 the holding silos. 7 Q All right. So we would expect those to have 8 been subject to the bi-weekly test? 9 A That's, yes, correct. 10 Q Okay. So when it checks that it passes the 11 analysis, that is the bi-weekly test per J4; correct? 12 A Yes. 13 Q All right, sir. You can set that aside. 14 Now, J4-1 is the test that both the Johnson & 15 Johnson and the FDA know got an F minus on its round 16 robin in 1977; correct? 17 A If used alone, yes. 18 Q Okay. 19 A Yes, without TEM, yes. 20 Q That's right. Okay. 21 Exhibit 240 was a statement that Ms Frost 22 showed you regarding -- by Eiermann regarding Seymour 23 Lewin; correct? 24 A Yes. 25 Q And Eiermann, of course, we've established was

Page 1323 1 a former Johnson & Johnson employee; correct? 2 A Yeah, you stated that. I wasn't aware of it. 3 Q Well, I pointed it out to you on a Johnson & 4 Johnson memo; right? 5 A You did, yes. 6 Q Okay. All right, sir. You can set that aside. 7 Exhibit 244 was a meeting between FDA and 8 Rohl and Langer that you were shown by Ms Frost. 9 (Briefly off the record) 10 And Dr Langer demonstrates his -- one of his 11 methodologies here, and I highlighted a section. 12 Can you go ahead and read that out loud for 13 us? 14 A Okay. This is -- let's just check the date on 15 which report it is. It is the report of a meeting 16 between Dr Langer and Dr Rohl and two people from the 17 FDA, March 22, 1976. 18 What you have underlined under the heading of 19 Tremolite, it states that: 20 "Dr Langer demonstrated by preparing a slide 21 of Cashmere Bouquet talc. Under the microscope 22 tremolite was observed as short particles with 90 23 degree cleavage. Anthophyllite had the same cleavage 24 but was definitely fibrous, having aspect ratios 25 typically 30 or 40 to 1".	Page 1325 1 Here you go, sir. 2 A Thank you. 3 Q Sure. 4 Okay. So from time to time, citizens, in 5 groups or alone, they write to the FDA and they ask 6 them to do things, such as maybe take something off the 7 market or put a warning on a product; right? 8 A They do. 9 Q Okay. 10 So if you'll look at that page, at the bottom 11 it's got a PDN1, but it's the third page overall. 12 A Yes. 13 Q All right. 14 So the FDA responds to this individual, 15 Philip Douillet; right? 16 A They do. 17 Q And they say: 18 "FDA recognizes that asbestos inhalation over 19 extended periods is hazardous to humans. The agency 20 ..." 21 Let me ask you this: is 40 years an extended 22 period? 23 A Yes. 24 Q Okay. 25 "The agency is also aware that some cosmetic
Page 1324 1 Q All right. 2 So Langer is showing the FDA -- by way of 3 example, he's using Cashmere Bouquet, but he's found 4 tremolite in it and fibrous anthophyllite; correct? 5 A He's claiming to have found, yes, tremolite and 6 amphibole. Yes, he's claiming that. 7 Q Right, and the word "claiming" is yours; right? 8 A It is, yes. 9 Q Okay. All right. 10 A Certainly, as we know at this time, there was 11 debate as to what people were identifying, and we've 12 seen that before. 13 Q Well, that doesn't say there's a debate or he's 14 claiming. It says this is what he found; right? 15 A That's what he's -- yes, that's what he's 16 reporting. 17 Q Okay, sir. 18 One of the other things you were asked to 19 look at was a Citizen's Petition from 1986. 20 I think there should be a -- I have the copy 21 that was handed to me. 22 Do you have your copy over there? It's 23 Exhibit 245. 24 Let me come behind you. 25 (Briefly off the record)	Page 1326 1 talc produced in the 1960s and early 1970s did contain 2 asbestiform minerals. However, your petition has not 3 persuaded us that the cosmetic talc that is presently 4 being produced contains significant amounts of 5 asbestiform minerals". 6 Right? 7 A That's what it states. 8 Q Now, the FDA knows that when the CTFA did their 9 round robin in 1977, they were using 1976 production 10 powders; correct? 11 A Yes. 12 Q And that at least three of those were positive 13 under J4; correct? 14 A Yes. 15 Q Okay. 16 Go to the next page, please. In the second 17 paragraph about halfway in: 18 "By 1976 asbestos analytical methodology was 19 sufficiently developed that the Cosmetic Toiletry and 20 Fragrance Association (CTFA) could issue a 21 specification (copy enclosed) for cosmetic talc. This 22 specification required that such talc be free of 23 fibrous amphibole (e.g., asbestos in the form of 24 asbestiform tremolite) using a CTFA method of analysis 25 that is capable of detecting 0.5 per cent of amphibole

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1 asbestos. This specification contributed to the
 2 continuing improvement of cosmetic talc quality".
 3 So he's citing J4; correct?
 4 A Correct.
 5 Q All right, sir.
 6 And that was -- that was one of the things
 7 that the FDA wrote to this man and then, of course, if
 8 you turn a few pages, you can see CTFA J4 -- sorry, you
 9 can see their spec for cosmetic talc; right?
 10 A Yes.
 11 Q And then for fibrous amphibole, if you go
 12 across, they specify CTFA J4-1; right?
 13 A That's what is stated, yes.
 14 Q Right, sir. You can set that aside.
 15 So even though there were two guys from the
 16 FDA at that meeting where J4 failed miserably, the FDA
 17 is now telling someone in 1986 that they're actually
 18 citing J4 as one of the reasons for improved talc; is
 19 that true?
 20 A It's true to say that J4 has contributed to
 21 improved talc, yes.
 22 Q And we know that later in 1977 Mr Schelz from
 23 Johnson & Johnson actually recommended increasing the
 24 amount of allowed fibrous tremolite and anthophyllite;
 25 correct?

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1 A I believe we may have seen that as a comment in
 2 a note, yes.
 3 Q Allowing anthophyllite up to 2 to 4 per cent;
 4 remember that?
 5 A Yes.
 6 Q Okay.
 7 Now, McCrone -- Johnson & Johnson asked them
 8 to revise at least one report we put up on the board,
 9 the one that gave the percentages of tremolite in the
 10 baby powder that they looked at; right?
 11 A I don't know whether they were asked to revise
 12 or asked to comment, but there was a -- there was a
 13 second variance, yes.
 14 Q Yes.
 15 So remember the chain of events was the
 16 report comes to Johnson & Johnson, it gives the
 17 percentages of tremolite, and they describe them as
 18 "rods" in two samples of Johnson's Baby Powder;
 19 correct?
 20 A Correct.
 21 Q Then there's a note on it that says, "Do not
 22 use this report"; right?
 23 A Yes.
 24 Q Then we have another handwritten note that
 25 says, "McCrone report being revised"?

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1 A Yes.
 2 Q Or, "Being redone"?
 3 A Being redone, yes.
 4 Q And then we have the new one where all the
 5 percentages are removed?
 6 A Correct.
 7 Q Right. Okay.
 8 Let me show you something. This was in the
 9 documents you guys gave us.
 10 This would be 262.
 11 (Exhibit 262 marked for identification)
 12 Now, you can see this is a November 26, 1990,
 13 letter from McCrone to Cyprus; right?
 14 A Yes.
 15 Q And it discusses three samples that were sent
 16 to McCrone for asbestos analysis; right?
 17 A Yes.
 18 Q And it says:
 19 "Examination found no quantifiable amounts of
 20 asbestiform minerals".
 21 Right?
 22 A Yes.
 23 Q And there's three samples: CWM90-28; 90-29; and
 24 90-30.
 25 So the ultimate report that Cyprus gets back

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1 is no asbestos; right?
 2 A That's the cover page, yes.
 3 Q Okay.
 4 Then you see the letter from Cyprus to
 5 McCrone where they say: here's the samples; right?
 6 A Yes.
 7 Q The next page lists the three samples: 90-28;
 8 90-29; and 90-30; right?
 9 A It does, yes.
 10 Q Then -- you're looking at the correct page, I
 11 think -- at the top it says EPA Level II TEM Analysis;
 12 right?
 13 A Yes.
 14 Q It says the client ID is CWM90-28; right?
 15 A Yes.
 16 Q And we know from the cover that they say it
 17 contains no asbestiform minerals; right?
 18 A Yes.
 19 Q Now, look down at the count sheet and look at
 20 the space for grid 56.
 21 Do you see that?
 22 A Yes.
 23 Q It says the structure is F, which is fiber;
 24 type, A for asbestos; length, 20 -- that's microns;
 25 right?

Page 1331 1 A Yes. 2 Q Width, 1.5; right? 3 A Yes. 4 Q And then under SAED and EDS, it says check 5 mark, check mark, anthophyllite; right? 6 A Yes. 7 Q Twenty to 1 is a fiber; right? 8 A Yes. 9 Q By anybody's definition; right? 10 A Yes. 11 Q Okay, and that is a fiber of anthophyllite; 12 right? 13 A By -- on a 20 to 1 ratio, yes. 14 Q Yeah. 15 A Yes. 16 Q Okay, and if you turn to the next count sheet, 17 there's a couple of EDS readouts there. 18 The next count sheet is for Cyprus 90-29; 19 right? 20 A Yes. 21 Q Okay, and you don't see any structures 22 identified on that count sheet; true? 23 A No. 24 Q Okay. 25 Go to the last one, which should be for	Page 1333 1 A Yes. 2 Q Okay. 3 So the first one, 20 and 1.5 is far more than 4 3 to 1; right? 5 A It is, yes, yes. 6 Q And here it is actually identified -- the 7 structure is identified as a fiber; correct? F? See 8 that? 9 A Yes, yes. 10 Q Okay. 11 And under OSHA, it's a minimum of 5 microns; 12 right? 13 A Yes. 14 Q So this would be a fiber under OSHA? 15 A Yes. 16 Q Okay. 17 The last one was shorter. It was 1 micron 18 long; right? 19 A Yes. 20 Q Okay. 21 So that's not a countable fiber under OSHA? 22 A No, it is not, no. 23 Q Okay. 24 So let's just talk about the first one you 25 brought up. That's a countable fiber under OSHA and
Page 1332 1 90-30. 2 You see structure, F fiber, type C 3 chrysotile, length, 1, width .15, meaning that's about 4 8 to 1. Something like that; right? 5 A Yes. 6 Q Okay. 7 And it says SAED, check mark, EDS, check 8 mark. 9 So that's a fiber of asbestos; correct? 10 A I'm not a mineralogist. You know, I'm not 11 going to comment on that. You need to ask a 12 mineralogist. 13 There have been -- I just tell you where I'm 14 coming from. OSHA have defined the minimum width, the 15 minimum length for a fiber to be defined as asbestos. 16 That's -- I can't remember what the OSHA 17 definition is at this point, so it's probably a 18 question to check with a mineralogist. 19 Q Well, let's do that, then. Let's take -- let's 20 actually take Johnson & Johnson's definition, which 21 happens to be the OSHA definition. 22 Remember on the first day I showed you under 23 test method 7024, fiber by J&J was defined as 3 to 1 24 parallel sides. 25 Do you remember that?	Page 1334 1 according to Johnson & Johnson; correct? 2 A It is, yes. 3 Q Okay. 4 And yet somehow the report from McCrone back 5 to Windsor says, "No quantifiable amounts of 6 asbestiform minerals"; right? 7 A Yes. 8 Q Okay. You can set that aside, sir. 9 You said this -- I wrote this down -- you 10 should report on what you find? 11 A Yes. 12 Q As a scientist; right? 13 A Yes, absolutely. 14 Q If you find something, you need to report it; 15 right? 16 A Yes. 17 Q That goes for any scientist, yourself included; 18 right? 19 A Yes. 20 Q It goes for McCrone? 21 A Yes. 22 Q It goes for Rubino? 23 A Yes. 24 Q Okay. 25 Do you agree that the act of supplying

Page 1335 1 information to the FDA can be just as deceptive as 2 providing none if you provide incomplete information? 3 A I'm going to use the word again, 4 "hypothetical". 5 The act of providing information to the FDA 6 is -- depends on what kind of information. 7 My understanding of the records that we've 8 gone through in the last four days is that Johnson & 9 Johnson have provided a very large amount of 10 information to FDA which Johnson & Johnson considered 11 to be valid and relevant to the product. 12 I'm not aware that any information has been 13 deliberately withheld that the company has felt should 14 have been seen by FDA. 15 But, again, I'm talking hypothetically. 16 Q Well, let's go back to my question in which, 17 which was a general question. 18 A Okay. 19 Q Which is: the act of supplying partial 20 information can be just as bad or worse than supplying 21 none; correct? 22 A Okay. 23 Q Generally speaking? 24 A Well, partial information, you should supply 25 information, partial or full, when you're sure of its	Page 1337 1 things in duplicate or -- 2 Q How many -- for any studies that were done for 3 Johnson & Johnson that showed no asbestos, how many did 4 Johnson & Johnson go back to the researcher and say: 5 you had better redo this? 6 A I don't know if anyone has ever used those 7 words, "Better redo this". 8 It would not be unusual in any analytical 9 study, whether it's microbiology or whatever it may be, 10 to question the study you've got, and say: does this 11 sound right? Is this really the reality? Is this 12 reflecting the picture we've had for the last ten 13 years? 14 So you may well go back to the lab and say: 15 would you check this, please? 16 Q I'm not asking a general question. I was 17 asking a very specific question about Johnson & 18 Johnson. 19 Are you aware of any time where Johnson & 20 Johnson asked any of its consultants to redo a negative 21 study? 22 A I'm not aware they've asked them to do a 23 negative -- redo a negative study. 24 Q Okay. 25 We saw a few times where they asked them to
Page 1336 1 veracity, its correctness. 2 Q Well, let's say -- let's say you have both 3 positive and negative results, right, and the FDA wants 4 to know is there any -- for instance, in this case, is 5 there any asbestos in the talc? 6 We know they wanted to know that; right? 7 A They did. 8 Q Okay. 9 A They do, yes. 10 Q And so if someone had both positive and 11 negative tests and only supplied the negative, that 12 would be misleading to the FDA; correct? 13 A It would be supplying insufficient information. 14 You would not be supplying the full picture. 15 Q Right. 16 A Yes. 17 Q And it would be biased information; correct? 18 A That's an interpretation, yes. 19 Q And you would agree with that interpretation? 20 A If the information that was being withheld was 21 shown to be true, as opposed to here's a partial 22 experiment, we haven't finalized it. 23 It's one of the things in science. People 24 often do a study and they say: I'd better confirm that, 25 and so you do it again. That's good practice, doing	Page 1338 1 redo a positive study; correct? 2 A They were asked to check the veracity of the 3 results. 4 Q Right. 5 How many times were they asked to check the 6 veracity of a negative result? Ever? 7 A I've not see that, no. 8 Q All right. 9 You're not an epidemiologist, are you? 10 A No. 11 Q Do you know how big of a population of miners 12 you would have to have to be able to have sufficient 13 power to actually determine whether or not there is a 14 relationship between inhalation of talc in a mine 15 setting and mesothelioma? 16 A I've not reviewed -- you know, that's an 17 epidemiological question. 18 What we do know is we've got over 2,000 talc 19 miners and millers who have had a -- often a lifetime 20 exposure, 25, 35, 40 years in some cases. 21 Q If I ask you that question, you can give me 22 that answer, but that's not the question I asked you. 23 A Okay. Ask the question again. 24 Q The question I asked you was: do you know 25 whether or not any of the studies you referenced had

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1 sufficient power to determine whether or not inhaling
 2 talc in a mine environment was sufficient to increase
 3 the risk for mesothelioma?
 4 Do you know the answer to that question?
 5 A I don't. All I read is what you read, is that
 6 none of the miners developed mesothelioma after a
 7 lifetime exposure to talc dust.
 8 Q Right.
 9 And, sir, have you -- are you aware of any
 10 studies comparing the quality of the dust between a
 11 mine setting, what is actually in the air, and a
 12 consumer use setting, where they're using the refined,
 13 finely pulverized powder?
 14 Are you aware of any studies comparing those
 15 two things?
 16 A I've not looked at those studies, no, no.
 17 There are studies which show the quantity of
 18 dust in the mine.
 19 Q Sure.
 20 But you can have -- for instance, you could
 21 have the same quantity in terms of particles of two
 22 totally different dusts; right?
 23 A Yes.
 24 Q But those dusts might be completely different
 25 in their character as far as how fine they are, what

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1 they actually are made of; right?
 2 A Yes.
 3 Q Okay.
 4 MS FRAZIER: They've been disconnected.
 5 MR PANATIER: All right. Well, that's a good
 6 time for a break anyway, and I'm nearing the end.
 7 (Off the record at 5:30 pm)
 8 (On the record at 5:41 pm)
 9 BY MS FROST:
 10 Q Sir, Exhibit 85 was the one where there was a
 11 survey done of some competitors, including Johnson's
 12 Baby Powder, but four other competitors from Ekerl,
 13 Richway, Revco Stork-Aid and K-Mart.
 14 A Mmm.
 15 Q As well as an evaluation of international talcs
 16 and the Windsor float and stock.
 17 If you'll take a look at the evaluation, this
 18 was an evaluation of just amphiboles per slide, okay,
 19 and if you take a look at the baby powders, there's
 20 five total baby powders evaluated there; right?
 21 A Yes.
 22 Q Out of those five, which one had the most
 23 amphiboles?
 24 A Johnson's Baby Powder, Lot PR6139.
 25 Q All right. You can set that aside.

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1 This will be Exhibit 263.
 2 (Exhibit 263 marked for identification)
 3 Now, sometimes in media statements, sometimes
 4 in advertisements we see Johnson & Johnson talking
 5 about how their talc is extremely pure; right?
 6 A Yes.
 7 Q Very pure.
 8 And under the CTFA standard that was set they
 9 said that the overall -- whatever goes into the bottle
 10 has to be at least 90 per cent talc; right?
 11 A I can't remember, but I'll take your word for
 12 it, yes.
 13 Q That's fine.
 14 A And the CTFA statement.
 15 Q Well, okay.
 16 So the extent that Johnson & Johnson's
 17 standard is any different than that, what is their
 18 standard on how much of the dust that goes in the
 19 bottle is actually talc?
 20 A It should be over 90 per cent, yes.
 21 Q Okay.
 22 A Or thereabouts, yes.
 23 Q All right.
 24 Other stuff might be -- of course, we're
 25 talking about asbestos, but it might also be the

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1 chlorite you mentioned.
 2 A Yes.
 3 Q It might be little bits of other accessory
 4 minerals; right?
 5 A Yes, yes.
 6 Q Okay.
 7 So this here is -- this is one of those
 8 documents that was provided to us. It's from someone
 9 at -- it looks like IITRI Research Institute, and it's
 10 to the FDA, December 20, 1973.
 11 Take look at that.
 12 A Okay.
 13 Q Have you seen that before?
 14 A No, I'm not familiar with this one.
 15 Q Okay.
 16 He is calculating how many chrysotile fibers
 17 or how many amphibole fibers you could have in talc
 18 that is 99.9 per cent pure; right?
 19 A Yes.
 20 Q Okay.
 21 If you'll turn the page, right, and he's got
 22 a big, long math equation there?
 23 A He certainly has.
 24 Q Go ahead and go to the last page. I think he
 25 has his results, and he calculates results both for

Page 1343 1 chrysotile and amphiboles; right? 2 A Yes. 3 Q According to his calculations, if you have a 4 99.9 -- and is it just .9 or 99? 5 A On this one it says .9. 6 Q Okay. 7 A 99.9. 8 Q 99.9 per cent pure talc. 9 What is his calculation as to how many 10 chrysotile fibers can still be present in that talc? 11 A He's claiming it may contain -- sorry, it can 12 contain as many as 3,500 chrysotile fibers per 13 milligram. 14 Q Per milligram. 15 And for amphibole asbestos, how many fibers 16 per milligram? 17 A Well, for amphibole fibers, he's claiming it 18 might contain as many as 20,000 amphibole fibers per 19 milligram. 20 Q Okay. 21 If we want to know what that is per gram, we 22 just multiply each by a thousand; right? 23 A Yes. 24 Q So for chrysotile, you would have 3.5 million 25 fibers per gram; right?	Page 1345 1 You talked with Ms Frost about sort of the 2 worldwide talc control program; right? 3 A Yes. 4 Q When did that start? 5 A 1975 was the first one I can find. 6 Q Okay. 7 Now, I have an undated document here, but if 8 it started in '75, this would have to be post-'75 -- 9 A Yeah. 10 Q -- because it's entitled Asbestos Occurrence in 11 Talc, Control Worldwide. 12 It's Exhibit 264. 13 (Exhibit 264 marked for identification) 14 Now, in the second paragraph here, and I'll 15 let you see it in just a second -- 16 A Thank you. 17 Q -- they say: 18 "In the US -- and Italian-sourced talc, we 19 have excellent long-term audit information, control of 20 specific ore veins, and an ongoing system of 21 measurement that will tell us if we had processed 22 asbestos-containing talc". 23 And you and I have talked about all of 24 that -- between myself and you and Ms Frost, we've 25 talked about that quite a bit; right?
Page 1344 1 A Yes. 2 Q And for amphibole asbestos, you would have 3 20 million fibers per gram; right? 4 A Yes. 5 Q Okay, and that's hypothetical. If you had -- 6 A The whole -- yeah, the whole thing is a 7 hypothetical. 8 Q Sure. 9 A What if, what if. 10 Q Right. 11 A May contain. Yeah. 12 Q Now, in fairness, we see a lot of what ifs 13 about how much asbestos can be in a talc product; 14 right? 15 A We have. In the last two or three days, we've 16 seen a number of hypothetical what ifs, yes. 17 Q Sure. Sure. 18 Now, what he's saying is, if his math is 19 correct, that you could claim something to be 20 99.9 per cent pure, but that would allow for 21 3.5 million fibers per gram of chrysotile or 20 million 22 fibers per gram of amphibole asbestos; right? 23 A Yes. Hypothetically, if it contains that 24 number in the first place. 25 Q Okay. You can set that aside.	Page 1346 1 A We have, yes. 2 Q "In other sources, history is scant, control of 3 exact source is less reliable, and ongoing measurements 4 are so modest that they gave us little confidence". 5 But look at what it says at the very top. It 6 says Present Position, and what is their introductory 7 paragraph? 8 A This says: 9 "... at present [we] have no control system 10 to prevent asbestos ..." 11 In -- worldwide. 12 Q Okay. 13 That's not ideal, is it? 14 A Well, obviously, in -- this could have been 15 pre-'75, of course, but at that time, there was no US 16 control over the talcs in other non-US countries. 17 Q Tell me what the title of the -- 18 A The title is Asbestos Occurrence in Talc 19 Control Worldwide. 20 Q Worldwide, and you said that program started in 21 '75? 22 A It started in '75 as an official program, yes. 23 Q Okay. All right, sir. You can hand that over. 24 What they say here, whether this was '75 or a 25 little before or after, it says:

Page 1347 1 "We at present have no control system to 2 prevent asbestos contamination at levels detectable by 3 TEM in our finished product". 4 Right? 5 A That's what it states, yes. 6 Q And Johnson & Johnson was selling Johnson's 7 Baby Powder worldwide at that point; right? 8 A Yes. The reference doesn't, of course, state, 9 but responsibility was left to the individual countries 10 to ensure quality. 11 Q Well, the ultimate responsibility is the 12 company that puts it on the shelf, and that was Johnson 13 & Johnson; right? 14 A From a legal perspective, if Johnson & Johnson 15 France or Johnson & Johnson Germany put a product on 16 the market, they have the legal responsibility. 17 Q A Johnson & Johnson entity; correct? 18 A A Johnson & Johnson entity, yes. 19 Q All right. 20 This will be Exhibit 265. 21 (Exhibit 265 marked for identification) 22 Now, you said that at some point it became 23 fairly regular to do quarterly monitoring? 24 A Mmm hmm. 25 Q I think we have one of those here.	Page 1349 1 So this is April 1, '77; right? 2 A Yes. 3 Q And it's done by EMV. We haven't talked about 4 them yet, have we? 5 A No. 6 Q If you look at the photomicrographs near the 7 back, you can see that they have EDS. This is electron 8 microscopy; correct? 9 A Yes. 10 Q All right. 11 And what they say is they're trying some 12 different sample preparation. They say: 13 "It became evident during the last set of 14 analyses that some particles of the largest talc 15 fraction were being biased against during normal sample 16 preparation. Because tremolite is often present in 17 this size fraction and is apparently less susceptible 18 to comminution than talc ..." 19 What does "comminution" mean? 20 A Break down. 21 Q Okay. 22 A Yeah. 23 Q Right, because, of course, talc is softer, as 24 you say? 25 A It is, yes.
Page 1348 1 Now, this is -- if you look on the very first 2 page, or actually the second page, right, do you see 3 that's highlighted there? 4 A Yes. 5 Q And it says Consultant Report to Johnson & 6 Johnson, 9 Talc Samples, April 1, '77; right? 7 A Yes. 8 Q That would be the first day of the second 9 quarter? 10 A Yes. 11 Q Right. 12 And it's to Johnson & Johnson, and Windsor 13 mills; right? 14 A Yes. 15 Q Okay. 16 So on the next page it says: 17 "This report gives the results of analysis 18 for nine talc and rock samples and discusses new 19 preparation and examination techniques that have been 20 implemented to supplement previous techniques. Other 21 than this, examination is as described in previous 22 reports". 23 I'm going to go to the board, because we 24 haven't talked about this report yet, and we started 25 to. I put the date down and then I forgot.	Page 1350 1 Q So it's easier to break down talc than 2 tremolite; right? 3 A Yes, yes. 4 Q "... two preparations are now being examined: 5 one is as before, another is a slurry of the bottom 6 fraction of talc dispersed and decanted with ethyl 7 alcohol ..." et cetera; okay? 8 They have several different tests. They have 9 D ground, and that's their designation. 10 I take it that means "domestic ground"? 11 A I don't know. 12 Q Okay. 13 A I don't know. I wouldn't comment. 14 Q They have no -- nothing detected there; 15 correct? 16 A No. 17 Q That's on the page at the bottom, 8983? 18 A Yeah. 19 Q Is that correct? 20 A Yes. 21 Q Okay. 22 For A composite, and you guys were doing 23 composite quarterly TEM; correct? 24 A Yes. 25 Q They say both -- I'm just going to write this

Page 1351 1 in green so it's easier -- they say: 2 "Both large and small fibrous tremolite 3 particles found ..." 4 Right? 5 A That's what they state, yes. 6 Q Okay. 7 For Old Stock Composite, does that mean they 8 were just testing for a past quarter there? 9 A I don't know. It's -- you know, I'm going to 10 use the word "speculate", but I wouldn't want to 11 speculate. 12 Q Okay. Don't speculate then. 13 A Thank you. 14 Q They say: 15 "One small, fibrous tremolite particle". 16 Right? 17 A That's what they say, yes. 18 Q Then in Samples -- they have something labeled 19 Samples 14 and 15: 20 "Tremolite particles here were found in 21 several experimental types of preparations ..." 22 Because they're talking about how they're 23 changing up -- how they're preparing the slides for 24 microscopy; right? 25 A Yeah.	Page 1353 1 numbers of large tremolite particles. This sample was 2 prepared as described in the second paragraph of the 3 report. Figures 18 and 19 show the two types of 4 samples that would be prepared for each sample. One 5 fibrous tremolite particle was found in the larger 6 fraction, Figure 20". 7 So one tremolite particle; right? 8 A Yes. 9 Q One non-fibrous? 10 A Yes. 11 Q Okay. 12 And then there's a lot of pictures, and 13 they've got some at 1,500 times, 15,000 times. So this 14 is electron microscopy; correct? 15 A Yes. 16 Q Right. 17 Even if you look at the bottom of 8988, so go 18 to that page, 8988, they have some pictures. 19 Now, most of these old photocopied pictures 20 don't come out too well; right? 21 A They don't. 22 Q But these two on the left, you can actually see 23 there's a big bundle of tremolite there in the top 24 left; right? 25 A You can, yes.
Page 1352 1 Q "... however. Fibrous and non-fibrous 2 tremolite are shown in Figures 8, 9 and 10". 3 So they say -- they just say some tremolite 4 for 14 and 15; correct? 5 A They do say that, yes. 6 Q And for 8, 9 and 10, again, non-fibrous -- I'm 7 sorry, fibrous and non-fibrous tremolite. 8 Is that correct? 9 A That's what's written, yes. 10 Q Sample 16 was -- I'm just going to list it so 11 we're all on the same page here. 12 Sample 16 was non-fibrous tremolite. 13 So they're getting a mixture; correct? 14 A Yes. 15 Q They're getting some fibrous and some 16 non-fibrous; right? 17 A Correct. 18 Q No asbestos in 17 through 21, and I guess that 19 is at 21II? 20 A Yes. 21 Q So 17 through 21 -- I will put a II by it: 22 nothing. 23 And then B composite. They say: 24 "The sample represents what is hoped to be a 25 successful preparation technique for detecting small	Page 1354 1 Q And then there's a very long fiber at 5,000 X 2 of tremolite there on the bottom left; right? 3 A Yes. 4 Q Okay. 5 That's a fiber of asbestos sir; correct? 6 A I would say so, looking at that picture, yes. 7 Q All right, sir. 8 A But can I make a comment? 9 Q One second. 10 Go ahead and turn to 8993, please. Sorry, I 11 had one more I wanted to show you. 12 You can see there on the top left there's 13 another large bundle of tremolite fibers; right? 14 A Yes. 15 Q And those -- they label those as "fibrous 16 tremolite particles"; correct? 17 A They do, yes. 18 Q Right, sir. You can set that aside. 19 Now, what did you want to say -- 20 A Yes. 21 Q -- and I'm just allowing you to say it. I 22 didn't ask a question. But you can say what you want 23 to say. 24 A Thank you. Thank you. 25 It relates to this, because I have seen this

Page 1355 1 before and it is addressed to Johnson & Johnson. 2 At the time April, '77, Johnson & Johnson 3 also owned the industrial mine and they would also have 4 been sending samples of industrial talc. 5 This report, for whatever reason, doesn't 6 state what -- which mine was being evaluated. It's an 7 unknown. 8 It's just a comment I wanted to make. 9 Q You're saying you don't know if that is an 10 industrial sample? 11 A That is correct. 12 Q Okay. 13 We do know a few things. It's the start of 14 the second quarter, right? 15 A Yes. 16 Q You were doing -- you were sampling the 17 cosmetic quarterly; correct? 18 A Yes, but we haven't discussed the industrial 19 sampling. 20 Q Well, do we have a document here that tells us 21 what the industrial sampling was? 22 A No, because I was not deposed to talk about 23 industrial sampling, and I don't have that information. 24 Q But who brought it up, sir? 25 A No, I brought it up because this does not state	Page 1357 1 Talcum Products; do you see that? 2 A Yes. 3 Q Do you see that the authors are Pooley Rohl, 4 Langer, Bowes and Skinner; right? 5 A Yes. 6 Q So it looks like Pooley, Rohl and Langer, all 7 these guys actually wrote a paper together; right? 8 A Yes. Was this published? 9 Q Well, that's a good question. We're going to 10 talk about that. 11 A Okay. 12 Q So we will get there. 13 So, as you can see, this was a evaluation of 14 it looks like both mine and consumer talc products; 15 correct? 16 A Yes. 17 Q Okay. 18 Now, you asked me whether or not this was 19 published. I take it, then, you're not aware if it was 20 published? 21 A I'm aware of a paper that Pooley authored with 22 Langer, or a draft paper that was presented or not 23 presented at a symposium. 24 Q Mmm hmm? 25 A And because Pooley did not agree with the draft
Page 1356 1 it's cosmetic talc from the cosmetic mine. It's a 2 bland report. 3 I just wanted to note for the record it 4 doesn't state that it's cosmetic talc. 5 Q Well, it also doesn't state that it's 6 industrial talc, does it? 7 A No, it doesn't. It's a bland report on talc. 8 Q Right. 9 What we do know is it is addressed to Johnson 10 & Johnson; correct? 11 A Correct. 12 Q It is the start of the second quarter of 1977; 13 correct? 14 A Correct. 15 Q It is electron microscopy; correct? 16 A Correct. 17 Q Johnson & Johnson was doing quarterly testing 18 of their talc by electron microscopy; correct? 19 A Correct. 20 Q All right. 21 (Reporter clarification) 22 This will be Exhibit 266. 23 (Exhibit 266 marked for identification) 24 Sir, do you see that this is a paper entitled 25 Mineralogy and Chemistry of British Talc and Consumer	Page 1358 1 that it was presented at. 2 Q Okay. 3 So if you turn to the -- we'll talk about 4 whether it was presented or not, but if you turn to the 5 page -- well, let's go to the Conclusions, okay. 6 The Conclusion page is the one with the Bates 7 stamp 4622. 8 A Yes. 9 Q Conclusions. 10 1. The analysis of twenty-seven samples of 11 raw talc imported into Great Britain and eighteen 12 consumer talcum products purchased at retail stores in 13 Great Britain has shown that these materials consist of 14 a variable and complex mixture of minerals". 15 So we know that it was 27 samples of raw and 16 18 consumer samples; right? 17 A That's what's stated, yes. 18 Q It says: 19 "Tremolite was found in six of the forty-five 20 samples, in amounts up to 30% by weight. Three of 21 these six samples were consumer talcs. Anthophyllite 22 was found in one consumer talcum. Serpentine phases, 23 possibly including chrysotile, were found in at least 24 two samples". 25 Did I read that right?

Page 1367 1 high grade platelet talc and a small amount of 2 fragrance. To assure that we obtain the purest talc 3 available, we extract ore from our own mines in Vermont 4 which were selected because of the high quality and 5 purity of the talc. The talc ore then undergoes a 6 cleansing procedure known as flotation that involves 7 many separate 'washing' operations to remove any 8 impurities which might be present". 9 Now, I'm going to stop there. 10 We know that statement is false; correct, 11 sir? 12 A The talc undergoes several washing operations, 13 yes. 14 Q Right, and his statement that it removes any 15 impurities is false; correct? 16 A It depends how we define "any impurities". 17 The washing involves removal of a great deal 18 of impurities, you know, the small fines, the 19 particles, hematite, iron magnetic particles. 20 They all get removed, as do small, fragile 21 fragments of talc. 22 Q Mr -- 23 A Those are impurities. 24 Am I missing something here? 25 Q Yes, sir. It's right here on the board.	Page 1369 1 mentioned those going back to the 1950s, '60s, the 2 source of the talc was the Italian 00000 talc, which we 3 know may contain traces of tremolite. 4 But based on thorough evaluation, that has 5 been shown to be non-asbestos tremolite. 6 So it will remove impurities. It may well 7 leave some tremolite present. 8 Q So I'm going to ask you the question again. 9 We know that, first of all, I asked you this 10 question already today -- we know that Johnson & 11 Johnson never said to Battelle or anybody else: go back 12 and decide what portion of the flotation where you 13 found tremolite is fibrous versus non-fibrous; correct? 14 A That is correct. 15 Q Okay. 16 A Yes. 17 Q This person from Johnson & Johnson is telling 18 one of your consumers that the talc is washed; okay? 19 "... many separate 'washing' operations to 20 remove any impurities which might be present". 21 To a person that is receiving that letter, a 22 lay person, a consumer, the way they take that is: they 23 get rid of all the impurities, isn't it, sir? 24 A That's -- well, that's part of the -- the next 25 sentence.
Page 1368 1 These are the results of the flotations of 2 Italian talc, all starting back in the '50s, where they 3 were showing that, even with the flotations, the 4 flotation system, the washing, like they call it; 5 right? 6 A Yes. 7 Q They were still getting tremolite in the end 8 result; correct, sir? 9 A In the 1950s? 10 Q In the 1950s? 11 A Yes. 12 Q Through the 1960s, and, sir, we have at least 13 two letters in the 1970s, one from Colorado School of 14 Mines, one from Hildick-Smith to a federal agency where 15 they say: we cannot guarantee removal of all elongate 16 particles. 17 And, in fact, today I showed you the one 18 where Colorado School of Mines said: we can't get rid 19 of tremolite; right? 20 A Yes. 21 Q So the statement that we wash it and we get rid 22 of any impurities is a false statement. 23 You might get rid of some impurities, but you 24 don't get rid of any impurities; correct? 25 A Well, you mentioned tremolite and, as you	Page 1370 1 Q Hold on. Hold on. 2 We're going to get there; okay? 3 A Okay. 4 Q How a regular person hears that is: hey, they 5 get rid of whatever impurities might be present, 6 because that's what the guys says; right? 7 A He does, and then he goes on in the next 8 sentence. 9 Q Which we're going to get to, okay. 10 "Finally, the talc is checked by complex 11 scientific methods including x-ray diffraction, 12 differential thermal analysis, and electron microscopy 13 with electron differentiation to confirm the absence of 14 asbestos". 15 Right? 16 A That's right. 17 Q Okay. 18 So this was written in December 30, 1974. 19 So we have all of this different testing. 20 Johnson & Johnson Baby Powder ore has trace fibrous 21 tremolite/actinolite .001 per cent chrysotile in 22 medicated power is the additive. 23 .01 per cent chrysotile in Johnson's Baby 24 Powder. 25 We have -- we have 1 to .5 per cent tremolite

Page 1371 1 and .2 to .3 per cent tremolite in 108 and 109T. 2 We have tremolite fibers that are suspected 3 in Johnson & Johnson Baby Powders. 4 We have confirmed amphibole in four samples 5 at between .001 per cent and .01 per cent. 6 The FDA study, then. We have a -- wait a 7 minute, what's the date of that? 8 A December, 1974. 9 Q 12 months earlier, we started a chrysotile 10 suppression system where we saw chrysotile in the final 11 float; correct? 12 We looked at that today; right? 13 A That was -- that was claimed to be the case. 14 Q Okay. 15 So despite all of that, this is what he tells 16 this person: that we get rid of any asbestos; right? 17 A That's what he's written, yes. 18 Q Then in the second paragraph he says: 19 "It is unfortunate that articles like this 20 appear from time to time, as they present a sensational 21 and scary perspective, rather than a balanced and 22 scientific one. Data associated with talc that is 23 heavily contaminated with asbestos or other dusts of 24 course has no bearing on the cosmetic use of a purified 25 talc like ours".	Page 1373 1 And that Johnson & Johnson's goal in their 2 own words was to "control the work"; right? 3 A Johnson & Johnson's goal is to actually find 4 the truth. 5 Q I'm not asking for your words. I'm asking to 6 agree whether or not Johnson & Johnson's words were to 7 "control the work"? 8 A It depends how we define "control". 9 I think I've said this before, the comments 10 from Dr Ashton made it also clear that Rubino and his 11 colleagues were very professional. 12 They would not subject themselves to any form 13 of control. They were going to give an honest 14 appraisal of their results. 15 Q Did Johnson & Johnson use the word "control" in 16 relation to Rubino's work? 17 A An individual used the word "control". 18 Q Okay. All right, sir. You can set that aside. 19 Is Johnson & Johnson's current philosophy, 20 right now today, that -- or let's just say within the 21 last ten years, okay -- in the last ten years, is 22 Johnson & Johnson currently still testing the final 23 product, as opposed to just the raw material? 24 A I believe so. 25 Q Okay.
Page 1372 1 Now, we know that the very next year their 2 own study showed that the cosmetic talc had more 3 asbestos in it than the industrial talc; right? 4 A That was what was written on the chart, yes. 5 Q Right. 6 Do you know whether or not Mr Infante wrote 7 Ms Sorensen back and gave her those results? 8 A I do not know. 9 Q Okay. 10 In the middle of the paragraph it says: 11 "The most recent information in this regard 12 was presented by Professor GF Rubino at the 37th 13 Congress of the Italian Society of Occupational 14 Diseases ..." 15 And he goes on to talk about that; right? 16 A Yes. 17 Q Did he disclose that Johnson & Johnson funded 18 that? 19 A Johnson & Johnson made a grant to Rubino, not 20 necessarily full cost of the work, but they made a 21 grant to Dr Rubino. 22 Q Right. We saw at one point it was I think 12 23 or 18,000. At another point it was 30,000? 24 A Yes. 25 Q Right?	Page 1374 1 It is Johnson & Johnson's policy that the 2 final product should be tested? 3 A I believe that is part of the audit, yes. 4 Q All right. 5 Now, who is John Lemmo, L-E-M-M-O? 6 A I think the name is in the Quality Assurance 7 Department. 8 Q Okay. 9 Who's Matthew Noble? 10 A He's an ex-employee in the UK. 11 Q Did you know him? 12 A Yes, I did, yes. 13 Q What was his job? 14 A He was a senior scientist. 15 Q Senior scientist. Okay. 16 Sorry for the little break there. This will 17 be 269. 18 (Exhibit 269 marked for identification) 19 I only have the one copy, so take your time. 20 No, I can bring it up here. 21 All right, sir. Here you go. 22 A Thank you. 23 Q Do you see that's an email sent December 6, 24 2009. The subject is Global Talc Specification; right? 25 A Yes.

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1 Q And it regards a PCPC meeting in DC.
 2 That's the CTFA?
 3 A Yes.
 4 Q Right.
 5 It says -- this is Mr Lemmo -- he says:
 6 "I did attend the PCPC meeting in DC
 7 yesterday. I made it a point to have off-line
 8 discussions with the attending talc experts (Drew Van
 9 Orden from RJ Lee, Julie Pier from Rio Tinto and Gary
 10 Tomaino from Speciality Minerals)".
 11 Do you know him?
 12 A No, I don't know him, no.
 13 Q Okay.
 14 What does "off-line discussion" mean?
 15 A It's probably just face it face, like we're
 16 having now.
 17 Well, no, actually it's not. We're being
 18 recorded. But if the recording was off and we had a
 19 chat, that's off-line.
 20 Q Got you.
 21 "All were in agreement that current XRD
 22 techniques are appropriate for testing for free
 23 crystalline silica, and that a limit of less than 0.5%
 24 was reasonable from the standpoint of analytical
 25 sensitivity and what we can practically expect from our

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1 high grade talc RMs".
 2 That's raw materials; right?
 3 A Raw materials, yes.
 4 Q "The FDA (John Gasper) made a brief
 5 presentation at the talc portion of the meeting, and
 6 mentioned that FDA is soon to complete a contracted
 7 analytical study of asbestos in US talc raw materials
 8 and finished products containing talc".
 9 And we've talked about that today?
 10 A We've discussed that today, yes.
 11 Q Okay. Last paragraph:
 12 "During the Q&A session I pointed out that
 13 the difficulties in testing for asbestos in ... raw
 14 material become even greater when testing a wide
 15 variety of finished products that contain talc (unknown
 16 potential interferences, lower overall sensitivity, no
 17 validated methods, etc.)".
 18 Now, there are validated methods for testing
 19 finished products; correct, sir?
 20 A Yes.
 21 Q Okay.
 22 "This was reinforced in a comment from the
 23 PCPC rep (John Bailey) ..."
 24 Now, John Bailey is one of the guys who works
 25 at PCPC and helps co-ordinate with industry and

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1 responding to regulatory stuff; right?
 2 A Yeah. He's been at PCPC for a few years, yes.
 3 Q Okay. Do you know him?
 4 A I do. I've met him, yes.
 5 Q Okay. All right.
 6 Do you know whether or not Johnson & Johnson
 7 has retained him as an expert witness in litigation?
 8 A I don't know that, no. Yes or no, I've no
 9 idea.
 10 Q Okay.
 11 Do you know whether anybody has retained him
 12 as an expert in asbestos talc litigation?
 13 A I don't, no.
 14 Q Okay.
 15 A I met him but, you know, beyond that I don't
 16 know what his day to day activities are.
 17 Q "This was reinforced in a comment from the PCPC
 18 rep (John Bailey) who re-stated my assertion that if we
 19 control (eliminate) asbestos in the raw material there
 20 is no need to test for it in finished products. There
 21 was no acknowledgment from the FDA on this view".
 22 Now, do you agree with this proposition by
 23 Mr Lemmo that there is no need to test for it in the
 24 finished products?
 25 A No, I think he's just making a suggestion.

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1 It's not one that would, you know, be accepted, I don't
 2 think, by his senior management.
 3 Q Okay.
 4 Because the truth is that the raw material
 5 testing can absolutely miss something; correct?
 6 A Raw material or mine? Raw material or mine?
 7 Q The mine testing can miss something; right?
 8 A The mine testing, yes.
 9 Q The raw material testing can miss something?
 10 A In theory.
 11 Q And even the final product testing can miss
 12 something; right?
 13 A In theory, yes.
 14 Q Okay.
 15 And, for instance, I think we can point to an
 16 example of this if we take it at face value, which is
 17 if we look at the report from the independent
 18 laboratory from 2004, he studied Johnson's Baby Powder
 19 and found .2 per cent anthophyllite asbestos; right?
 20 A Yes.
 21 Q If we take that at face value, that means that
 22 the mine missed it, the raw materials missed it, and
 23 the final product testing missed it; right?
 24 A Yes.
 25 Q But that also assumes that all three of those

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1 tests happened; right?

2 A Yes.

3 Q Because not every pound or every ton that

4 leaves the mine is tested; correct?

5 A That would be impossible.

6 Q Right. Of course.

7 A You would never reach the manufacturing plant.

8 Q Right, and certainly not every ton or even

9 every lot is tested at the plant; right?

10 A Not every ton, no.

11 Q And certainly not every bottle is tested;

12 right?

13 A Not every bottle, no.

14 Q We know that at the mine, they only test every

15 650 tons --

16 A Yes.

17 Q -- by J4; right?

18 A Yes.

19 Q So the prospect of missing something is

20 certainly a reality if we take that report at face

21 value; right?

22 A A theoretical possibility, yes.

23 Q Okay.

24 All right. Now, you said that -- you said

25 that your family use Johnson & Johnson's Baby Powder.

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1 When was the first time -- well, let me ask you, you

2 said your kids used it?

3 A Yeah.

4 Q I don't want to get personal, but when were

5 your kids born?

6 A 70 -- that's right, they'll never forgive me if

7 I get it wrong -- '74, '75, '81.

8 Q Okay. All right.

9 When was the first time that you had

10 responsibility for talc at Johnson & Johnson?

11 A Seventy-six.

12 Q Okay, and were you responsible -- I didn't see

13 your name on any of this early stuff -- were you

14 dealing with the asbestos issue?

15 A I was dealing with the safety of talc in the UK

16 and the European perspective --

17 Q Mmm hmm?

18 A -- as it pertained information crossing the

19 Atlantic. I was involved in dialogue with people like

20 Bruce Semple, MD. He regularly visited our offices in

21 the UK.

22 So, yes, certainly from that time, I was

23 familiar with the whole topic and issue from -- right

24 from the day I started, essentially, with J&J.

25 Q Okay, but I'm just -- in the 170,000 plus

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1 documents I've seen, I haven't seen a single one with

2 your name on it if you were involved?

3 A Okay. They would probably be in the UK

4 company's records, then, in that case, that any

5 meetings we had with people like Bruce Semple and other

6 colleagues. He would visit the UK office or the UK

7 facilities. We'd meet and I'd get an update.

8 Minutes would be held in the UK, if anything.

9 Q So there should be minutes of those meetings?

10 A If the minutes were taken of any meeting, yes,

11 yes.

12 Q Well, we know that Johnson & Johnson is minute

13 taking company; right?

14 A Maybe in the US. In the UK, things were,

15 certainly back in the '70s, a little bit more informal.

16 Q Well, we have information certainly going back

17 between the UK branch and the US quite a bit in these

18 papers we've looked at; right?

19 A Yes, possible. Yeah.

20 Q And we've only looked at -- I marked just over

21 200 exhibits, and we have well over a hundred thousand

22 of them, of total documents.

23 A Yeah.

24 Q So there should be documents with your name on

25 it if you were involved in talc back then; right?

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1 A It depends if those minutes that were taken in

2 the UK or what have you were transmitted back to the US

3 and what have you.

4 But Bruce Semple certainly visited the UK

5 office on many occasions in the 1970s. We met, we

6 discussed this topic, and I kept up to date with the

7 information.

8 Q You discussed the asbestos topic?

9 A We discussed talc safety. It was topical at

10 the time, as you know. We've discussed it in the last

11 four days.

12 Q Sure. Yeah.

13 But I just want to know to what extent you

14 were involved in asbestos?

15 A Not asbestos, no. We were involved in talc

16 safety, and the information we've discussed in the last

17 few days, people like Rohl and Langer and what was

18 happening with the CTFA.

19 That was part of the dialog, just essentially

20 not that I would make a major contribution, but that we

21 would be kept up to date with what's happening, because

22 it might affect the European operations.

23 Q It sounds like your involvement at all in

24 talc -- well, in asbestos would be in passing at best.

25 A The involvement was in talc safety as it

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1 related to the publications we've been talking about
2 today. Publications in the public domain, Rohl,
3 Langer, Lewin, anything that was happening with CTFA.
4 That was -- that was shared with myself and
5 our Medical Director.
6 Q And when you arrived in 1975 --
7 A Seventy-six.
8 Q -- when you arrived in '76, did you sit down
9 and go through all of the historical testing of Italian
10 and Vermont talc for asbestos?
11 A No, no.
12 Q Okay.
13 A Not at that point in time, no.
14 Q When did you -- when did you start to
15 appreciate that there was -- and I'll use the word
16 "controversy", because that's the word Johnson &
17 Johnson uses, but a controversy about asbestos in talc?
18 A Well, controversy came about with Dr Rohl, Dr
19 Langer, Dr Lewin in the early '70s, and then the
20 ongoing dialogue between CTFA, between CTFA and FDA.
21 That was a topic for discussion that we had
22 with Dr Semple back in the mid-'70s, late '70s, yes.
23 Q Okay. So you became aware of it some time in
24 the mid to late '70s?
25 A From when I joined the company.

Page 1384

1 Q Okay.
2 A I remember it was one of the first topics we --
3 as a toxicologist, it was a case of: you need to get up
4 to speed with what's happening out there.
5 So, yes, from the mid-'70s onward.
6 Q Right.
7 A So mid-'60s -- '76 onwards.
8 Q Okay.
9 Now, you said that your kids used the baby
10 powder -- you used the baby powder on your kids?
11 A Yeah.
12 Q They use it on the grandkids; right?
13 A Yeah. Still do. Or their parents do.
14 Q Okay.
15 Now, my question, then, is that's, what, 12
16 people? Eight grandkids, three kids ...
17 A It's eleven.
18 Q Okay, well, including you said your 99 year old
19 mum?
20 A Yeah, my mum, yeah. Well, she passed away and
21 when we were clearing out her cupboards recently I
22 noticed another tub of Johnson's Baby Powder.
23 Q Yeah. What did you do with it?
24 A Well, like everything else in the house, it
25 went in the dumpster.

Page 1385

1 Q Okay. All right.
2 Does Johnson & Johnson know the total number
3 of Johnson & Johnson talc product users who have died
4 or are dying from mesothelioma?
5 A I don't.
6 Q What is the total number of Johnson & Johnson
7 talc users who have sued you because they are dying of
8 mesothelioma?
9 A I don't know the answer to that.
10 Q Okay. Certainly, Johnson & Johnson has that
11 information; right?
12 A I don't. Yes, it is possible that the Legal
13 Department may way. I can't answer that question.
14 Q You were asked about -- you were asked for this
15 comment: about warnings. Do you recall talking about
16 warnings?
17 A I do, yes.
18 Q And Ms Frost said -- she brought up the concept
19 of warning just for the fun of it; right?
20 A Yes.
21 Q Okay.
22 If there was asbestos in anybody's talc, much
23 less Johnson & Johnson's, and they knew about it, the
24 manufacturer knew about it, there should be a warning
25 on it; right?

Page 1386

1 A If a talc product was deemed unsafe by medical
2 experts, scientific experts, it would be reasonable to
3 warn, or even not to sell it.
4 Q Correct, and in fact if Johnson & Johnson talc
5 powders had asbestos in it, they shouldn't have been
6 sold at all; correct?
7 A If they had asbestos that was dangerous and the
8 product wasn't safe, then that's a reasonable
9 supposition.
10 Q Okay, and in the 1960s, Johnson & Johnson was
11 aware that doctors were already saying baby powder
12 shouldn't be used on babies; right?
13 A Yeah, doctors are entitled to an opinion.
14 We've certainly seen in the last couple of
15 days that a couple of doctors, or certainly several
16 doctors, had that opinion.
17 Q I'm going to re-ask the question because you're
18 answering a question I didn't ask.
19 A Okay.
20 Q Johnson & Johnson knew, as of the 1960s and
21 even before, that doctors were recommending against the
22 use of baby powder, saying it should not be used;
23 correct?
24 A Some doctors were.
25 Q Johnson & Johnson still sells it; correct?

Page 1387

1 A Correct.

2 MR PANATIER: Let's go off the record and see

3 if I have anything else.

4 (Off the record at 6:32 pm)

5 (On the record at 6:34 pm)

6 BY MR PANATIER:

7 Q Just briefly, sir, Exhibit 22 -- it was one of

8 the first exhibits we used in the case, was a report of

9 a visit to Italy in 1959, and I'll go ahead and hand it

10 to you. I have a copy of it.

11 This is just on the last thing we talked

12 about. 1959. Here's what it says:

13 "The Val Chisone owners were worried lest we

14 had found poisonous minerals in the talc or had

15 otherwise been displeased. When told we merely had a

16 scheme for improving their excellent talc, they were

17 most anxious to cooperate. Masci explained that our

18 problem was not a matter of dissatisfaction, but that

19 about 1/3 of the doctors are presently advising against

20 the use of baby talc inasmuch as starches and oils have

21 a greater purity and there is no dangerous dust to

22 inhale".

23 Now, you remember reading that on Day 1, I

24 think?

25 A Yes, we've read this before, yes, yes.

Page 1388

1 Q And you have said repeatedly everyone is

2 entitled to their opinion, but this is one third of

3 doctors, according to them, in 1959; right?

4 A That is what is written, yes.

5 Q Okay.

6 Hold on, there's one more thing apparently

7 that I'm supposed to ask about.

8 And then the very next sentence, sir.

9 Mr Masci is someone with Johnson & Johnson,

10 Nick Masci; right?

11 A Yes, that's my -- my read of it, yes.

12 Q Well, it actually says he's --

13 A Yes, it does. It says Johnson & Johnson, yes.

14 Q The next thing he says is:

15 "Masci explained that J&J has no desire to

16 get into the mining business ... its objective is to

17 produce a superior powder ... to reverse the present

18 market trend which is away from talc".

19 Right?

20 A That's what he states, yes.

21 Q Right.

22 A That's what's written, yes.

23 Q Okay.

24 And in 1969, the company doctor said that any

25 use of asbestos -- any use of talc if it had asbestos

Page 1389

1 should be minimized; correct?

2 A Yes.

3 MR PANATIER: Those are all the questions I

4 have for you at this time, sir. Thank you.

5 THE WITNESS: Thank you.

6 EXAMINATION:

7 BY MS FROST:

8 Q Dr Hopkins, I'm going to start close to the end

9 of where Mr Panatier ended.

10 In connection with the ongoing sale of

11 Johnson & Johnson Baby Powder, has the company had any

12 reason historically to be concerned about the

13 development of mesothelioma in the users of its baby

14 powder or other cosmetic baby products?

15 A No, none whatsoever.

16 Q You spoke with Mr Panatier about the Rubino

17 study, and irrespective of which of the years of

18 publication we're talking about, can you tell us

19 whether or not the data concerning the development of

20 neoplasms was made available to the medical community?

21 A It was made available, yes, through symposia,

22 publications, yes.

23 Q The data that is important as it relates to

24 these specific cases that we're here about, lung cancer

25 or mesothelioma, was that information included in the

Page 1390

1 published version, or was it excluded from the

2 published version?

3 A There's a record mentioning mesothelioma and

4 lung cancer that was included as part of the analysis.

5 Q And is that true whether we're talking about

6 1976 or 1979?

7 A Yes.

8 Q Mr Panatier asked you about a document numbered

9 265, and I'm going to hand you my copy of that.

10 Do you remember that? That is the ENV

11 analysis?

12 A Yes, I do remember this. I recollect reading

13 this some while back.

14 Q In connection with the ENV analysis, is there

15 anything in the text of that report that helps us

16 identify the source of the talc being evaluated?

17 A No. It's just described as nine talc samples.

18 Q Can you tell us whether or not the samples are

19 industrial talc or cosmetic talc?

20 A This report does not identify whether they're

21 industrial or cosmetic, or even if they are Johnson &

22 Johnson talc.

23 Q In evaluating talc, and we talked about this

24 earlier today when we were talking about Mr Bill

25 Ashton, would there have been any reason for Johnson &

Page 1391 1 Johnson to have an outside source evaluate a talc 2 sample at the time period of this report in 1977 that 3 was not related to a specific mine from which Johnson & 4 Johnson was sourcing its cosmetic talc? 5 A What actually happened, and I remember Bill 6 Ashton when I met with him many times, is that over the 7 years he received talc samples from prospective mines 8 all over the world, from Asia, India, China, Latin 9 America, several in Europe, who were saying: please 10 evaluate our talc; can we offer you as our talc as an 11 alternative to what you're doing. 12 So in fact his shelf in his little cubicle 13 had lots and lots of different samples of talc that had 14 been sent in, totally unsolicited, by prospective mine 15 owners in many parts of the world. 16 So it was typical that he would say: yeah, 17 let's look at it. It doesn't cost a great deal. Let's 18 just see what the quality of this talc is. 19 So he would invariably send off -- if it 20 looked white, then he would say: yeah, let's check it 21 out, it could be of use to us. 22 And they were just labeled with a number, A, 23 B, C, 1, 2, 3. 24 But that's all we have. It's all I've seen 25 at this point. It was unknown talc samples.	Page 1393 1 A I do, yes, yes. 2 Q Would you look on the page where they have the 3 summary of the mineralogic composition of the 18 4 British consumer talcum products, and I'm going to hand 5 you my copy of that so you don't have to look for 6 yours. 7 Do you see that? 8 A Yes, I do, yeah. 9 Q Can you tell us whether or not the indicated 10 mineral references say for the amphiboles whether those 11 are asbestos or not asbestos? 12 A Nowhere does it actually state they are 13 asbestos. There's a description of tremolite, but it 14 doesn't state whether it's asbestos tremolite or not. 15 And likewise for anthophyllite. It doesn't 16 state whether or not it's asbestos tremolite. 17 Q It is very late in the day. Can you tell us 18 does the use of the word "tremolite" or "anthophyllite" 19 alone answer the question for us of whether or not that 20 is asbestos? 21 A It does not, no. 22 The majority of tremolite that we find in the 23 world, the vast majority is not asbestos tremolite. 24 Q In connection with that report, and you may set 25 that down, sir, Mr Panatier also asked you about a memo
Page 1392 1 Q Now, in fairness, that particular report does 2 use the word "composite" as it relates at least to some 3 portion of materials that were being evaluated. 4 A Mmm hmm. 5 Q Does the use of the term "composite" help you 6 in any way to reach a conclusion about the source or 7 identity of the materials that are being tested? 8 A Not really. You could have a composite sample 9 from more than one supplier. 10 For example, if you've got two manufacturers, 11 two mine owners in a particular area, they could well 12 send you a composite from what they had from their 13 mine. 14 It's -- the problem with this report is it is 15 not specific. It doesn't give you that level of 16 information that would, in my view, give you an 17 assurance that you were looking at a Johnson's cosmetic 18 talc. It's not mentioned anywhere. 19 Q Mr Panatier also asked you about a document 20 number 266 which reflects to be a draft -- it's poor 21 quality, but it says "Subject to being revision [sic] 22 not to be quoted", and this is the document that was 23 labeled as a draft article by both Drs Pooley and Dr 24 Langer. 25 Do you remember talking about that?	Page 1394 1 from Dr Langer to Dr Chalmers that purports to explain 2 what was done in connection with that paper. 3 Do you remember those questions? 4 A I do, yes, yes. 5 Q And it makes reference to pressure put on Dr 6 Pooley. 7 Do you recall those questions? 8 A Yes, I do, yes. 9 Q Other than Dr Langer's memo that talks about 10 the withdrawal of the paper, have you seen anything 11 from Dr Pooley that says that Dr Pooley agrees or 12 disagrees with the representation by Dr Langer 13 concerning the handling of the paper at the seminar? 14 A No, I've not seen any comment from Dr Pooley. 15 Q Are you familiar with this particular issue, 16 and were you familiar at the time with the discussion 17 about the presentation of the paper and the ultimate 18 withdrawal of it by Drs Pooley and Langer? 19 A At the time, I was not employed by Johnson & 20 Johnson, but obviously I have since read part of that 21 100-odd thousand documents that there was a dialogue 22 between Dr Pooley, or Professor Pooley and Dr Langer 23 related to the withdrawal of that paper. 24 Q And based on your review of those documents, 25 what is your understanding of the reason why the paper

Page 1395 1 was withdrawn? 2 A My understanding, having read that, is that 3 Professor Pooley wasn't happy with the way the paper 4 was written and the conclusions that were being drawn 5 from it. He did not want to be associated with it. 6 Q Mr Panatier asked you some questions about 7 testing and the frequency of testing and the ability to 8 test every piece of talc that came out of the mine. 9 Do you remember those questions? 10 A Yes, I do, yes. 11 Q Can you tell us whether or not it is an 12 appropriate statistical method to do sampling of 13 product -- whether we're talking about talc or 14 something else -- in order to determine the quality of 15 that product? 16 A Well, the point of achieving what you're trying 17 to find is statistical relevance or significance. 18 Essentially, as with anything, the more times 19 you test, you test and test and test again, then the 20 higher level of surety you have to be able to say: this 21 product is free from asbestos. 22 If you test once, you've got an assurance 23 level of one. If you test a hundred times, then you're 24 a hundred times more assured of the result that you've 25 got.	Page 1397 1 Q Mr Panatier also asked you some questions, 2 looking back at some 1995 findings by McCrone regarding 3 asbestos in some of the talc. 4 Do you recall those questions? 5 A I do, yes. 6 (Reporter clarification) 7 Q I am going to hand back to you Exhibit number 8 234. 9 Separate and apart from what Mr Panatier has 10 on the flip-chart, what did McCrone tell to a third 11 party in 1987 about its historical findings related to 12 asbestos in the talc that was being mined from Windsor 13 and used by Johnson & Johnson? 14 A Yes, they looked at all their analyses of 15 asbestos over the period 1971 onwards to 1984, and they 16 summarized that by saying that: 17 "Throughout this entire period I can only 18 recall two occasions ... [in] which some suspicious 19 material was detected. The first involved possible 20 chrysotile contamination in an air sample and the 21 contamination source was ... pinpointed to a 22 deteriorating clutch in some mechanical equipment". 23 And the second was a novel one that was 24 written up in the medical literature -- in the 25 scientific literature, which was indicated that there
Page 1396 1 Q In connection with the sampling that was done 2 by Johnson & Johnson to test its ore and the material 3 from the mine, was the frequency sufficient from a 4 statistical standpoint to provide any level of 5 certainty regarding the quality of the talc? 6 A I would say yes and -- 7 Q Why? 8 A -- with the caveat that, over time, if you test 9 once, you've got an assurance of one. But you do that 10 regularly over the year many times and do it again the 11 next year and the next year, and if you're finding 12 results that meet the requirements, then your level of 13 surety is very, very high. 14 Q What was the level of surety of Johnson & 15 Johnson in connection with the talc that it was 16 receiving for use in its baby powder and cosmetic 17 powder products? 18 A Well, the level of surety comes from 19 understanding of the mine and the mine geology. So you 20 start at that point with a historical record of absence 21 of asbestos from the mine samples. 22 And then the regular quarterly audit of the 23 mine as you progress. You look at that data, add that 24 to your pile, and then you add to the data pile by 25 taking results from every two-weekly samples.	Page 1398 1 was no asbestos present. 2 Q And the sort of bottom line summary from 3 McCrone concerning its conclusions about the ore it had 4 been testing throughout that entire time period was 5 what? 6 A "... our opinion [has always been that] and 7 continues to be ... [that in] 15 years of closely 8 examining ... product [the product is free from 9 asbestos]". 10 Q Did Johnson & Johnson have any basis to 11 conclude that the level of exposure to talc associated 12 with its cosmetic products were not associated with the 13 risk of development of meso? 14 A There is no evidence that talc products sold by 15 Johnson & Johnson were associated with mesothelioma. 16 None. 17 Q Prior to the litigation that we're here about, 18 and some other contemporaneous litigation, over the 19 course of time from 1894 to close to contemporary 20 times, has Johnson & Johnson had any experience 21 concerning mesothelioma and its products? 22 A No, they have not. 23 Q At the end of the day, have any of the 24 questions Mr Panatier has asked you changed your 25 opinion regarding the safety or purity of Johnson &

Page 1399 1 Johnson's products? 2 A No. I'd go home and use Johnson's Baby Powder 3 tonight. I've no -- no concerns. 4 MS FROST: I don't have any further questions 5 for you, sir. I will pass you to the next one. 6 MR GAFFREY: I don't have any further 7 questions. 8 EXAMINATION: 9 BY MR PANATIER: 10 Q I do. 11 All right, sir. Sir, you said that Johnson & 12 Johnson has no concern regarding mesothelioma for the 13 users of its powders; right? 14 A That's my opinion, yes. 15 Q Johnson & Johnson has never surveyed its users 16 to see the disease incidence among them; correct? 17 A That would be correct, yes. 18 Q Johnson & Johnson -- certainly an indication of 19 whether or not Johnson's talcs can cause meso would be 20 individuals who get mesothelioma from using it and then 21 sue Johnson & Johnson; correct? 22 That would be an indication, wouldn't it? 23 A That would be an indication of a dialogue or a 24 discussion about the relationship. 25 Q Okay.	Page 1401 1 Q Right? That has some cancer data from that 2 paper; correct? 3 A Yes. The '76 publication, it does -- it does 4 talk about malignant neoplasms of the esophagus, 5 pleura, mesothelioma. It measures those: lung, larynx, 6 stomach, intestine. 7 It does mention mesothelioma. 8 Q Keep it on that page; okay? 9 A Okay. 10 Q That's in 1976. That's one paper? 11 A Yes. 12 Q That's the mortality paper; correct? 13 A Yes. 14 Q Then there's a second paper four years later; 15 right? The morbidity paper; correct? 16 A Can we look at that? 17 Q You're looking at it right there. That's the 18 prepublication version. 19 Actually, it might be easier to get the -- 20 let's hop off the record. 21 (Off the record at 6:55 pm) 22 (On the record at 6:55 pm) 23 BY MR PANATIER: 24 Q You have in your hands the second Rubino paper; 25 right?
Page 1400 1 Now, you mentioned, you painted it in a very 2 broad brush stroke, and said all of Rubino's data was 3 available to the medical community. 4 Do you recall that? 5 A The data was available in various publications, 6 yes. 7 Q We know that's not true; right? We know the 8 second publication has five categories of increased 9 cancer that never saw the light of day; correct? 10 A I believe it was in the Rubino paper, was it 11 not? 12 Q It was in the prepublication version of the 13 second paper. The second paper only reported on lung 14 cancer; correct? 15 A I'd need to look at that again. 16 Q Okay. I'm perfectly happy for you to do that. 17 A Okay. 18 Q Here's the prepublication version. 19 A Yeah. 20 Q Here's the first version that's not 21 prepublication for that; right? 22 A Okay. 23 Q The paper you're looking at right now in front 24 of you was published in '76. 25 A Yes.	Page 1402 1 A Yes. 2 Q Okay. 3 A But this was never published. 4 Q It was published. 5 A Where was it published? 6 Q In the Society of Occupational and 7 Environmental Health Journal. 8 A Yes, this was the -- I have -- I do recollect 9 this. 10 Q Okay. 11 A This was presented as a paper at a symposium. 12 Q Okay. 13 A Yes, it was one of several papers presented. 14 Q And right under it, okay, you have -- get rid 15 of that, that is the other -- you set this to the side. 16 A Yeah. Thank you. 17 Q Here you go. That's the prepublication version 18 of the document there on your left; correct? 19 A It is a prepublication version of a paper 20 entitled Mortality and Morbidity in Talc Miners and 21 Millers in Italy, which is the same title, yes. 22 Q That's right. 23 So you have the published version in your 24 right hand -- in your left hand, and you have the 25 prepublished version in your left hand; correct?

Page 1403 1 A We have a version -- a prepublication copy of a 2 paper. 3 Q Right. 4 We already established that all of the data 5 about the excess cancers do not appear in the published 6 version; correct? 7 A In the version that was presented as a lecture? 8 Q Yes. 9 A The 15-minute lecture in the Society. 10 Yes, this was -- this was -- that was the 11 data that was presented. 12 Q Hold on a minute. I'm going to hold this up 13 for the camera. 14 This is a 15-minute lecture? 15 A Well, or half an hour lecture. 16 Q Hold on. Hold on. Hold on. 17 This was a -- what was it? A 15-minute 18 lecture? A half-hour lecture? What was it? 19 A It was given as a lecture to a professional 20 society. 21 Q Okay. 22 A In -- I believe it was Edinburgh. 23 Q And when it was given, sir, did it contain all 24 of the cancer data for the increased cancers of the 25 five categories that the prepublication version	Page 1405 1 So I can see why that may have dropped out, 2 certain important -- you may consider them important -- 3 important areas of discussion and debate. 4 But in the publication that preceded this, 5 the '76 paper -- the '74 paper -- he does look at 6 neoplasms across the board, including mesothelioma. 7 Q I'm going to ask you the question again. 8 Sir, for the morbidity paper that was either 9 presented or published -- 10 A Yes. 11 Q -- I'll give you whichever one you want; okay? 12 A Okay. 13 Q Did it contain the five categories of increased 14 cancer that was in the prepublication version? Yes or 15 no? 16 A No, it was a simplified version. It did not. 17 Q It did not? 18 A Correct. 19 Q They didn't suggest that there was any 20 increased cancer in the paper that was either presented 21 or published; correct? 22 A Correct. 23 Q Okay. You can set that aside. 24 You said the ENV paper, which you have there, 25 right, which I wrote on the board all of the fibrous
Page 1404 1 contains? 2 A No, it did not. 3 Q Okay. You can set that aside, please, sir. 4 A Yes. 5 Q Are you aware of a published version of the 6 second Rubino paper that does include the increased 7 incidence of the five cancer categories? 8 A The paper that followed the first Rubino paper 9 was by Rubino's colleagues, Dr Coggiola, in 2003. 10 That was an update of the data that was 11 available. 12 Q So you're saying that if we want the data that 13 was written there in -- of five increased categories of 14 cancer from 1979, we have to go to 2003? 15 A Well, all we've got is what we've got. 16 We've got two papers, or three papers, and we 17 have a prepublication version of a paper. 18 Now, I -- you know, I cannot be specific as 19 to why certain lines were removed from the half-hour, 20 one-hour lecture. They obviously were. 21 Certainly, you know, I've given symposia 22 talks and very often you're going to give it to a group 23 who have got expertise or experience in different 24 areas. It's not unusual to focus down on the main 25 bullet points.	Page 1406 1 tremolite that was found there in 1977, you said that 2 could be Ashton wanting to test somebody else's talc; 3 right? 4 A Yeah, I don't know whose talc this is. This 5 doesn't describe whose talc this is, which mine it's 6 from. 7 It basically doesn't have enough data to be 8 able to say: yeah, I feel confident in saying this is 9 yes or no Johnson's Baby. 10 Q Well -- 11 A There's no evidence here. 12 Q If it's your own talc, you don't have to label 13 it that it's your own talc, do you? 14 A When you send a sample off to -- 15 Q Can you just have to answer the question? 16 A No. 17 Q If it's your own talc, you don't have to list 18 that it's your own talc; right? 19 A You don't. You don't have to, but you don't 20 need to do so either. It's a choice. 21 Q Okay. All right. 22 Next question. So you -- we were talking 23 about the unpublished Pooley paper. Before you can 24 have tremolite asbestos, you have to have tremolite the 25 mineral; right?

Page 1407

1 A Correct.

2 Q And before you can have anthophyllite asbestos,

3 you have to have anthophyllite the mineral; right?

4 A Yes.

5 Q So by having the mineral, you're half way

6 there, but you've got to get fibers; right?

7 A Correct.

8 Q Okay.

9 You said your recollection of the reason why

10 the Pooley paper was withdrawn was because Pooley

11 wasn't satisfied with how the paper was being written?

12 A Yes.

13 Q He was the lead author; right?

14 A He was on a draft, yes, but not -- the paper

15 never got to the stage of being agreed to a format that

16 could be published.

17 Q The only copy we have, he's the lead author;

18 right?

19 A He's the lead author --

20 Q Okay.

21 A -- and that was in the form as a presentation

22 to a symposium.

23 Q And, lastly, Ms Frost asked you to reread the

24 letter from McCrone where they said from 1971 to 1984

25 they only had two occasions where there was asbestos in

Page 1408

1 talc.

2 One was they discovered that there was a

3 clutch that was disintegrating in the machine; right?

4 A Yes.

5 Q And another one, they just said was written up

6 somewhere, but they don't say what it was; right?

7 A They don't, no.

8 Q So really that means really no occasions of

9 asbestos in talc; right?

10 A It does, yes.

11 Q Okay.

12 So let's go to -- so the ones I've written

13 down here, 1975, November 5, 1975, that was McCrone;

14 correct?

15 A Correct.

16 Q That's an occasion of fibers of asbestos they

17 found; right?

18 A That's what you've written, yes.

19 Q Did they put that in the letter?

20 A That's what is written.

21 Q Did they put that in the letter where they said

22 they'd only had those two occasions; right?

23 A In their overall summary over 15 years, they

24 did not mention that.

25 Q Did they mention this one where they confirmed

Page 1409

1 asbestos, in fact twice as much in the cosmetic as they

2 did in the industrial?

3 A They did not.

4 Q Did they mention this one? Now, this one was

5 industrial, but did they mention that they found

6 chrysotile fibers at .006 per cent in an industrial

7 sample?

8 A My understanding is they are only discussing

9 cosmetic grade talc.

10 Q To Armstrong World Industries?

11 A Yeah. I mean, this doesn't make it clear

12 whether it's asbestos in cosmetic or industrial.

13 Q So McCrone doesn't mention this one either;

14 right?

15 A No.

16 Q Okay.

17 Let's see here. I don't remember all the

18 ones that McCrone.

19 This one is. 4.24.74, the evaluation of

20 Argonaut where they found chrysotile. They didn't

21 mention that, did they?

22 A They did not.

23 Q They didn't mention the S5888 sample that was

24 chrysotile, did they?

25 A They did not.

Page 1410

1 Q Let's see here ...

2 They didn't mention finding tremolite in 108

3 and 109T in October of '72, did they?

4 A No, but it could well have been non-asbestos

5 tremolite.

6 Q I hear what you're saying.

7 They didn't talk about finding chrysotile in

8 the additive to medicated powder in September of '71;

9 right?

10 A Not in this, because there is a separate note

11 I've seen that chrysotile could be confused with the

12 free flow agent, sodium sesqui citrate, that was added

13 to help the talc not stick in the bottle.

14 Q You said that, too.

15 The bottom line is McCrone did not convey all

16 of the times they had found asbestos, even in cosmetic

17 talc, in that letter; correct?

18 A That letter states that they did not find

19 asbestos in cosmetic talc over a 15 year period.

20 Q In their own words, they did; correct?

21 A But the letter states that they did not.

22 Q But in their own words -- these are their

23 words, because I wanted to make sure that I did this

24 straightforward; okay?

25 In their own words, they did find asbestos in

Page 1411 1 talc? 2 A On the -- the way you've written it on those 3 boards, they claim -- yes, that is what is written. 4 Q Those quotes, right, remember you and I? 5 A Yeah, you've written that, yes. 6 Q Those were their words; right? 7 A Yes, that's your -- that's the words you've 8 written, yes. 9 Q That they wrote for me to write? 10 A That's what -- that's what you've written, yes. 11 MR PANATIER: Pass the witness. 12 EXAMINATION: 13 BY MS FROST: 14 Q One last question: in connection with the 15 letter from McCrone in 1987, it is specific about the 16 Windsor mine, is it not? 17 A It is, yes. 18 Q And it is specific about cosmetic talc, or is 19 it? 20 A It doesn't mention cosmetic talc. At least if 21 it does, I can't see it. 22 Q Okay. 23 But talc from the Windsor mine would have 24 been Grade 66? 25 A Yes, it would, yes.	Page 1413 1 whether or not we could tell if these were cosmetic or 2 not. 3 HC: cosmetic; correct? 4 A Without seeing the tabulation to confirm that, 5 it's a guestimate. 6 Q You and I talked about this. We saw the 7 designations that Windsor Mineral used. HC was 8 cosmetic. Windsor was Windsor Industrial and G was 9 Gassetts. 10 Do you remember that? 11 A I do remember that, yes. 12 Q They said this was the cosmetic; correct? HC? 13 A I'll take your word for it, but I cannot 14 remember whether that is a definition for the cosmetic 15 grade. 16 MR PANATIER: No furthers questions. 17 Anybody on the phone? 18 (Off the record at 7:07 pm) 19 (On the record at 7:08 pm) 20 MS FROST: To the extent that they are J&J 21 Bates stamped documents that we produced to you, same 22 stipulations as yesterday. 23 As it relates to the reading of the 24 transcript, the witness will want to read the 25 transcript.
Page 1412 1 Q So that would be cosmetic talc? 2 A Yes, it would, yes. 3 Q And Mr Panatier just asked you about a whole 4 series of various reports. 5 Of those reports -- those previous reports, 6 can we tell whether or not those evaluations were from 7 the Windsor mine, from one of the other mines in 8 Vermont, or not? 9 A We cannot. 10 Q Can we tell from those results whether the 11 findings they are recording are of cosmetic talc or of 12 industrial talc? 13 A We cannot. That's not specified in the 14 reports. 15 If it states Grade 66, it's cosmetic talc. 16 Q In connection with the findings that relate to 17 tremolite, can we necessarily tell whether those are 18 asbestos or non-asbestos? 19 A That's not defined. It could be asbestos. 20 More likely non-asbestos. 21 MS FROST: I don't have any further 22 questions. 23 EXAMINATION: 24 BY MR PANATIER: 25 Q Let's just make sure: Ms Frost just asked you	Page 1414 1 MR PANATIER: Can we stipulate to an unread 2 and signed version to be used in motion practice if 3 necessary? 4 MS KAGAN: We did that with the rough. 5 MR PANATIER: We're already doing it with the 6 rough, but I figured -- 7 MS FROST: We can make that agreement. 8 MR PANATIER: Yeah. Okay. 9 (Whereupon the deposition concluded at 7:09 pm) 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

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16	246 Wergeland, et al. "Cause-specific		16	JNJAZ55_6145	1272
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Page 1428 1 Exhibit Description 2 No. 3 197 Memo Ashton (J&J) to Hildick- 4 Smith (J&J) Re Italian Talc 5 Studies Visit to Prof Rubino 6 University of Turin, Italy 7 JNJAZ55_1096 1217 8 202 Rubino, Mortality and Morbidity 9 Among Talc Miners and Millers in 10 Italy 11 JNJNL61_53191 1223 12 207 Rubino, Mortality and Morbidity 13 Among Talc Miners and Millers in 14 Italy 15 No Bates 1222 16 17 18 19 20 21 22 23 24 25	Page 1430 1 CERTIFICATE OF COURT REPORTER 2 3 I, DEIRDRA JORDAN, an Accredited Court Reporter, 4 hereby certify that the testimony of the witness, JOHN 5 HOPKINS, in the foregoing transcript taken on Friday, 6 August 18, 2017, was recorded by me in machine 7 shorthand and was thereafter transcribed by me; and 8 that the foregoing transcript is a true and accurate 9 verbatim record of the said testimony. 10 11 12 I further certify that I am not a relative, employee, 13 counsel or financially involved with any of the 14 parties to the within cause, nor am I an employee or 15 relative of any counsel for the parties, nor am I in 16 any way interested in the outcome of the within cause. 17 18 19 Signed: 20 Name: DEIRDRA JORDAN 21 Date: 22 23 24 25

1 ERRATA SHEET
 2 Priority-One Court Reporting/Veritext
 718-983-1234
 3 ASSIGNMENT NO. P1-2684109
 CASE NAME: Herford, Verdolotti, Teuscher & Etheridge v.
 Asbestos/Johnson & Johnson
 DATE OF DEPOSITION: 8/18/2017
 4 WITNESS' NAME: Dr. John Hopkins Vol 4
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21 Dr. John Hopkins Vol 4
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 23 OF _____, 2017.

24 NOTARY PUBLIC
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CERTIFICATE OF COURT REPORTER

I, DEIRDRA JORDAN, an Accredited Court Reporter,
hereby certify that the testimony of the witness, JOHN
HOPKINS, in the foregoing transcript taken on Friday,
August 18, 2017, was recorded by me in machine
shorthand and was thereafter transcribed by me; and
that the foregoing transcript is a true and accurate
verbatim record of the said testimony.

I further certify that I am not a relative, employee,
counsel or financially involved with any of the
parties to the within cause, nor am I an employee or
relative of any counsel for the parties, nor am I in
any way interested in the outcome of the within cause.

Signed:

Name: DEIRDRA JORDAN

Date: 30th August 2017.....

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