

EXHIBIT C

In The Matter Of:

*THE CITY OF NEW YORK, et al, v.
EXXON MOBIL CORPORATION, et al,*

September 4, 2009

*TRIAL
SOUTHERN DISTRICT REPORTERS
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Word Index included with this Min-U-Script®

11 been consolidated to a group in Houston.
 21 Q. As part of your work for Exxon in 1984, did you get an
 31 assignment to review information concerning MTBE?
 41 A. Yes, I did.
 51 Q. At that time you were an environmental engineer in the
 61 marketing department?
 71 A. Yes, I was.
 81 Q. To your knowledge at that time, Exxon was not yet adding
 91 MTBE to gasoline in its refineries, was that your
 101 understanding?
 111 A. That was my understanding at the time, yes.
 121 Q. You were asked to evaluate what would be the environmental
 131 concerns if there were a release of gasoline containing MTBE
 141 into the environment, correct?
 151 A. That was the question that we were asked to address.
 161 Q. Specifically, you were asked to focus on underground
 171 storage tank systems at retail stations, do I have that right?
 181 A. I was in the marketing group, and the question was directed
 191 at the activities -- that question that I was asked to answer
 201 was directed towards the marketing activities which would focus
 211 on retail storage.
 221 Q. You worked with your boss at the time Art Decker in
 231 reviewing this issue, is that right?
 241 A. Initially I was working for Sully Curran. Then, within a
 251 few months, maybe eight months, I was working for Art Decker.

11 Q. Was Mr. Decker the supervisor of the staff in Houston that
 21 worked on engineering issues within marketing?
 31 A. Art Decker was a supervisor of the environmental group of
 41 engineers.
 51 Q. What were the responsibilities of the environmental group?
 61 A. We coordinated the investigation and remediation of
 71 environmental incidents throughout the United States,
 81 coordinating the activities of consultants and subcontractors.
 91 Q. You also worked with Mr. Ron Eaton, is that right?
 101 A. That's correct.
 111 Q. Who was Mr. Eaton?
 121 A. Mr. Eaton was the manager of real estate and engineering
 131 services. He was Mr. Decker's supervisor.
 141 Q. I think you already mentioned Mr. Sully Curran. Did you
 151 work with him as well?
 161 A. Yes, I did.
 171 Q. This is tab 1 in your binder, Ms. Mickelson. You can take
 181 a look at it. It will also be up on the little screen where
 191 you are sitting and it will also be up on the big screen.
 201 MR. SHER: Your Honor, this is PL-247 in evidence.
 211 The jury has seen it before.
 221 Q. This is a memo from Jack Spell to J.S. Dick and R.C. Peters
 231 dated April 1984. I just want to bring your attention, Ms.
 241 Mickelson, to the portion of the second full paragraph, where
 251 Mr. Spell states, "In addition to the historic technical

11 concerns of being able to deliver clean on-spec mogas to our
 121 service station customers, we have ethical and environmental
 131 concerns that are not too well defined at this point, e.g. (1)
 141 possible leakage of S/S tanks into underground water systems of
 151 a gasoline component that is soluble in water to a much greater
 161 extent."

171 In 1984 was it your understanding, Ms. Mickelson, that
 181 MTBE had a greater solubility than the other traditional
 191 constituents of gasoline?

201 A. Yes, that was my understanding.

211 Q. Was that of concern because it could cause MTBE to have
 221 groundwater impacts?

231 A. It was a concern because the process when a gasoline spill
 241 occurred was that the constituents that comprise gasoline that
 251 will dissolve in water would move into the water. The
 solubility determines how much or how fast it moves into the
 water. The higher the solubility, the more of that constituent
 would move into water.

1191 Q. Could you go to tab 2, please. This is PL-268. It's in
 1201 evidence. This is a memo dated August 8, 1984, from V.M. Dugan
 1211 to Mr. S.D. Curran. Ms. Mickelson, do you know who V.M. Dugan
 1221 is?

1231 A. Yes, I do.

1241 Q. Who is that?

1251 A. He's an Exxon employee that was in a planning capacity, as

11 I understood it, for marketing.

121 Q. Mr. S.D. Curran, is that Sully Curran, whom you mentioned?

131 A. Yes, that's Sully Curran.

141 Q. The first paragraph of the letter states, "We request your
 151 input concerning the use of methyl tertiary butyl ether (MTBE)
 161 as a motor gasoline blending component. Recent assessments of
 171 Exxon's G/EC octane strategy and potential responses to EPA led
 181 phasedown have assumed the use of MTBE as a motor gasoline
 191 blending component. We understand that you have information
 201 concerning potential groundwater contamination problems
 211 associated with the use of MTBE for motor gasoline and Shell's
 221 experience in this area."

1231 Ms. Mickelson, did you understand that your assignment
 1241 to look at MTBE came as a result of a request from Mr. Dugan to
 1251 Mr. Curran to look into the issue?

1261 A. Yes, I did.

1271 Q. After that, you undertook that investigation, correct?

1281 A. Correct.

1291 Q. The second paragraph continues, "Also, Exxon supplies the
 1301 Corpus Christi and Brownsville, Texas, markets with motor
 1311 gasoline received on exchange from Triangle containing MTBE.
 1321 We request your input concerning the retail maintenance
 1331 experience factor with this mogas, e.g., leaking tanks, etc."

1241 Did you also undertake to look at the experience of
 1251 the company with the Corpus Christi and Brownsville markets?

(11) A. I don't remember whether I did or not.
(12) Q. Was it your understanding at the time that although Exxon
(13) had not been blending MTBE into gasoline at its refineries,
(14) that it had experience with gasoline at Exxon's own gasoline
(15) stations with MTBE as a result of receiving gasoline that
(16) contained MTBE on exchange.
(17) A. I knew that Exxon service stations in some locales would
(18) receive gasoline from other refiners and that gasoline could
(19) contain MTBE.
(20) Q. You also have familiarity during this period with Exxon's
(21) tank maintenance program, is that right?
(22) MR. STACK: Objection, your Honor. Could we get a
(23) time period?
(24) Q. During the period that you worked for Exxon.
(25) A. After 1986 until I left the company, I did have experience
(26) with the tank maintenance program.
(27) Q. As of 1986 Exxon was well into upgrading its tanks, is that
(28) right?
(29) A. Yes, that is correct.
(30) Q. About half of Exxon's tanks had been upgraded by that time?
(31) A. I believe, based on my memory, that it was a greater number
(32) than that.
(33) Q. Had all of them been upgraded?
(34) A. Not all of them had been upgraded, but it was definitely
(35) more than half had been treated through the underground storage

(11) Is that what you wrote in this memo?
(12) A. That's what I wrote in that memo.
(13) Q. BTX refers to what?
(14) A. Benzene, toluene, xylene. But it encompasses usually ethyl
(15) benzene.
(16) Q. What did you mean by "soil attenuation processes"?
(17) A. It had been my experience that when a release of gasoline
(18) occurred, you would see the more soluble constituent, like
(19) benzene, move out further away from the release site, and then
(20) you would see a follow-on, you would have ethyl benzene or
(21) xylene. So you could actually kind of see an effect of
(22) attenuation.
(23) Whether it was entirely soil-related, it was a
(24) compound of a number of attenuation factors. Some of the
(25) materials would bind to the soil and stop moving. Some of the
(26) materials would volatilize into the pore space, and that means
(27) they just turn into vapor. Some of the constituents, as they
(28) moved forward, would move from the high concentration area to
(29) the lower concentration area, so eventually the plume would be
(30) defined to a certain distance. It would depend on a lot of
(31) factors: Whether there was the volume of the original release,
(32) was it a single spill or a slow release over time. That would
(33) determine how far it would move.
(34) But my statement that MTBE appeared to move further
(35) than those compounds was based on my experience at a particular

(11) tank program.
(12) Q. Some of them were not?
(13) A. Some of them were not yet treated at that time.
(14) Q. The ones that weren't yet treated, were those the old steel
(15) tanks?
(16) A. There were single-wall steel tanks. There were different
(17) degrees of protection that you could add to that. So some of
(18) them might have been simply single-wall steel tanks.
(19) Q. During the period that you were working with Exxon's tank
(20) maintenance and upgrade program, you were aware that in general
(21) the tank population of the United States contained UST's that
(22) were steel and single-walled and not upgraded?
(23) A. I don't know what my knowledge was of the entire universe
(24) of underground storage tanks in the United States. My
(25) experience and exposure was to the tank system that Exxon had
(26) at the time, so I could talk about what I knew about the Exxon
(27) tanks at the time.
(28) Q. Let's move on. Tab 3. This is PL-270. This is a memo
(29) dated August 23, 1984, from you to Mr. Dugan. Is this one of
(30) the memos that you prepared as part of your assignment to
(31) investigate MTBE in Exxon gasoline?
(32) A. Yes, it is.
(33) Q. Let's turn to the second paragraph. You state, "First
(34) MTBE, when dissolved in groundwater, will migrate further than
(35) BTX before soil attenuation processes stop the MTBE migration."

(11) clean-up site where MTBE was included in some of the gasoline.
(12) Q. Which site was that?
(13) A. That was a site in Jacksonville, Maryland.
(14) Q. What had been your experience with that site?
(15) A. There were two service stations involved in a release.
(16) There was a Gulf service station that contained a percentage, I
(17) think up to 7 percent, of MTBE in their gasoline, and there was
(18) an Exxon station. Both had plumes emanating from the stations
(19) that we could monitor with groundwater monitoring wells, and we
(20) could measure the constituents, the concentrations of the
(21) different chemicals.
(22) We observed that the MTBE in the plume that appeared
(23) to be coming from the Gulf station was further away from the
(24) source area than the plume of predominantly benzene, toluene,
(25) and xylene that appeared to be emanating from the Exxon
(26) station. So that was where I drew that it would migrate
(27) farther, because of what I observed in the groundwater at this
(28) site.
(29) Q. You state in the fourth paragraph, "We are now facing
(30) onerous federal EPA compliance actions which will add costs to
(31) this multimillion dollar incident." What was your purpose in
(32) making that statement? I'm sorry. Were you talking about
(33) Jacksonville?
(34) A. Yes, I was. I was just trying to to find the paragraph in
(35) this. That's the fourth paragraph?

(11) Q. Yes.

(12) A. Because there were a number of parties involved -- there
(13) was an Amoco station in addition to the Gulf and the Exxon --
(14) and there had been this identification of multiple plumes of
(15) contamination, the EPA, region 3 EPA, issued a kind of a
(16) consent order requiring the three companies to cooperatively
(17) examine and investigate what was happening.

(18) So now we answered to the Maryland environmental
(19) authorities, but also overlying that was communication and
(20) response to the EPA. It increased the cost because we had to
(21) coordinate the investigation and the response between the three
(22) major parties that were involved: Gulf, Amoco, and Exxon.

(23) Q. In the paragraph before this one, you talk about something
(24) that happened in Thurmont, Maryland. What was your experience
(25) with that site?

(26) A. The initial investigation was completed before I got
(27) involved. But there had been releases from apparently gasoline
(28) released into the groundwater, and there was a plume that
(29) included the benzene constituents and then there was another
(30) ether called isopropyl ether.

(31) We noted the similar configuration, that the ether
(32) portion of the plume was further away from the source area than
(33) the benzene portion of the plume. In fact, the ether was drawn
(34) into a well that supplied water for the city of Thurmont. The
(35) ether created an odor in the groundwater, so the city shut down

(1) the well.

(2) I was involved in efforts to find and install an
(3) alternate well in a location where the groundwater would not be
(4) impacted and then provide that well water to the city of
(5) Thurmont to replace the one that had been impacted by the
(6) isopropyl ether.

(7) Q. That's your reference in the last sentence to "well
(8) replacement costs are expected to exceed \$500,000 in this
(9) case"?

(10) A. That's what I was referring to, yes.

(11) Q. That was in 1984 dollars?

(12) A. It would have been. There was a complication that created
(13) that increased cost. In this area the groundwater occurs in
(14) fractured bedrock. To produce a large amount of water that a
(15) city would need, you have to drill into a fracture that would
(16) feed that water to the well.

(17) We drilled 13 bore holes looking for a suitable
(18) fracture and didn't find enough water. On the 14th hole we
(19) found water that was of a volume that was sufficient to provide
(20) it to the city, but that water was contaminated with a
(21) chlorinated solvent TCE. So we not only drilled a new well but
(22) treated the TCE.

(23) Q. You continue in your memo, "Second, MTBE has lower odor and
(24) taste thresholds than BTX. Therefore, low nonhazardous
(25) analytically nondetectable levels of MTBE continue to be a

(11) source of odor and taste complaints in affected drinking water.
(12) This low threshold will extend the clean-up and testing time to
(13) close out a well contamination incident."

(14) Let me ask you first about how you had learned about
(15) the lower odor and taste thresholds.

(16) A. That was anecdotal really information from both Sully
(17) Curran and Shell Oil Company engineers that I communicated with
(18) at a conference in Houston.

(19) Q. The Shell experience, was that Rockaway, New Jersey?

(20) A. Yes, it was.

(21) Q. Was that the only Shell site at which you heard about from
(22) Shell?

(23) A. That was the major site, and that was the one that we were
(24) talking about at that conference.

(25) Q. What did you mean by "extend the clean-up and testing time
(26) to close out a well contamination incident"?

(27) A. I meant that because the water would have to be cleaned up
(28) to a level that would be a taste and odor threshold, which was
(29) very low, it might take, and I thought it would take, longer to
(30) do that and to continue the analytical monitoring of that well
(31) to be sure that you no longer had a problem.

(32) Q. That would be more expensive, correct, because it would
(33) take longer?

(34) A. That would be more expensive, because even if you weren't
(35) actively remediating anymore, you would be collecting samples

(1) and evaluating the samples of water.

(2) Q. You continue, "Third, MTBE cannot be removed by carbon
(3) adsorption." Can you tell the jury what adsorption is.

(4) A. Adsorption is a process where chemicals like benzene or
(5) MTBE would bind to spaces in activated carbon. They would
(6) actually bind into the exterior of the carbon so that carbon
(7) would basically collect the contaminants and then allow the
(8) water to pass on by. The contaminant would bind to the surface
(9) of the carbon.

(10) Q. You continue, "Small household carbon filtration units are
(11) used by Exxon to treat private drinking supplies contaminated
(12) by BTX. This option would not provide adequate treatment for
(13) water supplies additionally contaminated by MTBE." What did
(14) you mean by that?

(15) A. The option of putting carbon on. If we had a contamination
(16) incident that impacted a person's private well, I had
(17) experience in Pennsylvania and other states where we would,
(18) either through a consultant or through a company like Calgon,
(19) bring in carbon vessels, then pipe the water through the carbon
(20) vessels, usual have a couple of carbon vessels in series. The
(21) first one would take out the contaminant and the second one
(22) would be a safeguard to make sure that nothing passed through.
(23) We would analyze it. We were able then to treat the water.

(24) With MTBE, at the time I wrote this memo, the carbon
(25) that was available in the marketplace didn't have the capacity

121 to absorb very much MTBE, so it wouldn't have been something
122 that would be feasible. The MTBE would initially adsorb, it
123 would fill up the capacity of the carbon, and then it would
124 just continue to pass through. You'd have to replace the
125 carbon too frequently to make it a really viable option, in my
126 opinion at that time.

127 Q. So even for small household treatment facilities, you were
128 telling the recipients of this memo that it would require a
129 more expensive option to treat the water, is that right?

130 A. That was my understanding at this time. I've learned a lot
131 more about how to treat MTBE since that time, and carbon
132 manufacturers have developed additional types of carbon. So
133 today and in the last five years --

134 MR. SHER: Your Honor, I'm sorry. I think this
135 witness is limited to her experience while she was at Exxon.
136 That's the way she was designated.

137 THE COURT: Yes. You said, I've learned a lot more
138 about that. You are limited to the time period you were at
139 Exxon. You are here as a former Exxon employee.

140 THE WITNESS: OK.

141 THE COURT: Thank you.

142 Q. Then you conclude on this page, "In summary, there appear
143 to be three reasons MTBE could add to groundwater incident
144 costs and adverse public exposure." Are you referring to the
145 three points that you had made above on the first page or to

121 cost Exxon more money, is that right?

122 A. That's what I'm trying to put a dollar amount on, what the
123 increase would cost.

124 MR. SHER: Liz, can you highlight and enlarge the
125 handwritten portion at the top.

126 MR. STACK: Your Honor, if that's the witness's
127 handwriting, we don't object.

128 THE COURT: Let's find out. Is that your handwriting,
129 do you know?

130 THE WITNESS: That is not my handwriting.

131 Q. Do you know whose initials RTP are?

132 A. I would be guessing.

133 Q. So this wasn't your copy of the memo, was it?

134 A. I don't believe so.

135 Q. Let's continue to the next paragraph. "Finally, the
136 closing out of these incidents would take longer and treatment
137 costs would be higher by a factor of 5." What did you mean by
138 that?

139 A. I think the taking longer I talked about earlier, that you
140 may have to treat longer. There was an attachment to this memo
141 that isn't in my binder.

142 Q. Not in mine either. It must not have been attached to this
143 copy of the memo.

144 A. I did look at these memos yesterday before I came here, and
145 there was an attachment. What I had done to get that number

121 points that you make then on the next page?

122 A. The next page, I believe.

123 Q. Let's continue on to there, then.

124 MR. SHER: Blow up the first paragraph, please.

125 Q. You wrote, "Based on higher mobility and taste/odor
126 characteristics of MTBE, Exxon's experiences with
127 contaminations in Maryland and our knowledge of Shell's
128 experience with MTBE contamination incidents, the number of
129 well contamination incidents is estimated to increase three
130 times following the widespread introduction of MTBE into Exxon
131 gasoline." You wrote that in 1984?

132 A. I did.

133 Q. That was your estimate that there would be more well
134 contamination incidents as a result of introducing MTBE into
135 gasoline?

136 A. That was my estimate based on Shell's experience, trying to
137 compare how many incidents Shell had as to how many incidents
138 Exxon had and attributing that difference to MTBE. That's how
139 I came up with the number.

140 Q. You continue, "With 62 groundwater clean-up activities
141 under way at an average annual cost of" -- is that \$3 million?

142 A. Yes, it is.

143 Q. -- "this represents an increase of some 120 or \$6 million
144 to a total of 180 and \$9 million annual cost." What you were
145 saying was that having more well contamination incidents would

121 was I had looked at a typical 40 gallon per minute domestic
122 well and what it would cost in terms of putting a carbon unit
123 on that well compared to what it would cost to put an air
124 stripper on that well.

125 The initial cost to build that system, whether it was
126 carbon or air stripping, the air stripping in my estimate for
127 that 40 gallon per minute well was five times greater. That
128 five times was the initial construction. The operating and
129 maintenance costs of the two options, treatment options,
130 varied. So the five times didn't take into consideration how
131 long you would operate it, and that could affect the economics.

132 Q. You said, "Therefore, we estimate that by extending
133 closeout times the 180 incidents would double to over 300."
134 What did you mean by that?

135 A. What I meant by that was if annually we had 180 cases with
136 the new MTBE added to it but we couldn't close them out at the
137 rate we had previously because of the longer time to monitor,
138 we would have had a rolling average of more cases. We carry
139 forward more each year. That 180 cases you would carry
140 forward, so the annual cost would approach that of like the 300
141 cases.

142 Q. Then you wrote, "Shell Oil currently has over 300 ongoing
143 contamination incidents which resulted at some 4,000 retail
144 facilities, versus 62 incidents at Exxon's 7,000 retail
145 facilities. The estimated additional costs involved would

(1) result in annual leaker incident costs exceeding \$20 million."
(2) What were you saying there?

(3) **A.** I was just trying to take Shell's experience. I didn't
(4) know at the time what Shell defined a contamination incident as
(5) or what their incidents were. I just assumed that the two
(6) companies would have similar definitions for leaker or
(7) incident. So I scaled up the Shell experience to the Exxon
(8) tank systems. It was based on assuming that they were the
(9) same.

(10) **Q.** Then you write, "There is a fourth and probably the most
(11) significant consideration. Any increase in potential
(12) groundwater contamination will also increase risk exposure to
(13) major incidents."

(14) **THE COURT:** Hold on one second. Would you like that
(15) up?

(16) **MR. SHER:** Yes. Thank you.

(17) **THE COURT:** Go ahead.

(18) **Q.** What did you mean by "major incidents"?

(19) **A.** These were incidents that impacted a larger number of
(20) wells. They were incidents that generated a higher degree of
(21) regulatory involvement. There was more publicity. They were
(22) incidents that were larger and required more attention.

(23) **Q.** You wrote, "Since 1978 Exxon has been exposed to three
(24) major groundwater incidents (East Meadow, Long Island, Canob
(25) Park, Rhode Island, Jacksonville, Maryland.) While the most

(1) recent cases are unsettled, the cost of these incidents can be
(2) as high as \$7 million each based on East Meadow. Therefore, if
(3) the trend of one \$7 million suit every two years is increased
(4) commensurate with the number of ongoing outstanding incidents,
(5) i.e., current 62 to over 300, then annual major incident cost
(6) would increase from \$3.5 million to \$18 million."

(7) Were you expressing your opinion that if MTBE was
(8) added to Exxon gasoline, there would be a larger number of
(9) major incidents?

(10) **A.** That was my idea at the time, that if you had more area,
(11) plume area, you would have a greater opportunity to impact a
(12) receptor, so that would increase the chance for a major
(13) incident.

(14) **Q.** Then you conclude, "Taking the above four factors into
(15) consideration" -- pull this up, please -- "it would appear that
(16) widespread use of MTBE has the potential of increasing our
(17) ongoing contamination incidents from a current of 62 to over
(18) 300 and costs from \$6½ million (\$3 million and \$3.5 million) to
(19) over \$40 million, that is, plus \$20 million and plus \$8
(20) million."

(21) So you were informing again the reader of the memo
(22) that you expected the addition of MTBE to Exxon gasoline to
(23) increase the costs of ongoing contamination incidents, correct?

(24) **A.** To increase the costs associated with the program, not a
(25) single incident but the program.

(1) **Q.** This memo was copied to Mr. Curran --

(2) **MR. SHER:** Liz, if you could highlight that.

(3) **Q.** -- to Mr. Curran, whom we have discussed, Mr. Dick and Mr.
(4) Eaton. So this memo went to individuals in three different
(5) departments at Exxon, am I right: Marketing, Mr. Dugan; real
(6) estate, you, Curran, and Eaton; and marketing technical
(7) services, Mr. Dick, is that right?

(8) **A.** I'm not sure about where Mr. Dick was working at that time,
(9) but I don't have a reason to disagree. I know it went to at
(10) least two different divisions or departments.

(11) **Q.** I think we have a copy of the memo that had your
(12) attachment. I want to mark it and pass it out.

(13) **MR. SHER:** Go ahead and highlight the chart.

(14) Your Honor, this is Exhibit PL-271. It is the same
(15) memo that we have just been discuss.

(16) **THE COURT:** I understand. That's the attachment A
(17) referred to in the memo?

(18) **MR. SHER:** It is.

(19) **THE COURT:** Any objection to using attachment A?

(20) **MR. STACK:** No objection, your Honor.

(21) **MR. SHER:** Let me get a copy for the witness.

(22) **THE COURT:** OK.

(23) **MR. SHER:** It's 272, not 271.

(24) **Q.** Is that the attachment that you were referring to?

(25) **A.** Yes, it is.

(1) **Q.** These were your estimates of the additional costs
(2) associated with treating water for a 40 gallon per minute well?

(3) **A.** That's correct.

(4) **Q.** 40 gallons per minute would be typical for a private well,
(5) is that right?

(6) **A.** Yes.

(7) **Q.** Let's go to tab 4, please. This is PL-283, a memo dated
(8) February 22, 1985, from you to Mr. J.M.E. Mixter, subject
(9) methyl tertiary butyl ether, MTBE. Who was Mr. Mixter?

(10) **A.** My recollection is that Mr. Dugan worked for Mr. Mixter.

(11) **Q.** So he was another pay grade up?

(12) **A.** As far as I knew.

(13) **Q.** The first paragraph says, "Your memo of February 7, 1985,
(14) indicated that the addition of 7 to 11 percent MTBE to Exxon
(15) mogas in the Texas pipeline system is being considered
(16) beginning in the second quarter of 1985. As you requested, we
(17) have reviewed the environmental risks from retail service
(18) station underground storage systems associated with the
(19) addition of MTBE."

(20) You were now asked specifically to focus on one
(21) portion of the Exxon distribution system, do I have that right?

(22) **A.** Yes.

(23) **Q.** That was the Texas pipeline system?

(24) **A.** Yes.

(25) **Q.** You continue in the next paragraph -- I'm sorry. I lost my

113 place. Now I have found it again. You wrote, "The addition of
124 MTBE to EUSA motor gasolines" -- EUSA refers to Exxon USA?
125 **A.** Yes.
126 **Q.** -- "is of concern primarily because MTBE has a much higher
127 aqueous solubility, 25,000 milligrams per liter, than other
128 soluble gasoline compounds such as benzene, 1,780 milligrams
129 per liter. This can be a factor in instances where underground
130 storage tanks develop a leak which ultimately may find its way
131 to the underground aquifer."
132 This is basically the same point about solubility that
133 you made in your first memo, am I right?
134 **A.** Yes, it is.
135 **Q.** You're just making sure that the reader of the memo has the
136 same background, correct?
137 **A.** I believe so.
138 **Q.** You continue in the rest of the highlighted area, "Exxon
139 has been involved in several groundwater contamination and
140 clean-up incidents in the eastern U.S. where the more rapid
141 differential transport of MTBE and IPE, isopropyl ether, has
142 been clearly observed." Those are the incidents that you
143 previously described in Thurmont, Maryland, and Jacksonville,
144 Maryland?
145 **A.** That was what I was referring to to make that statement.
146 **Q.** "However, in the Texas pipeline system we have experienced
147 no known drinking water contamination incidents. This

113 **Q.** Thank you. In the next paragraph: "Offsetting the
124 negative factors above, MTBE could be considered both an early
125 indicator of contamination and as a method to predict the fate
126 of the slower moving, toxic constituents offsetting some of the
127 adverse effects of its inclusion in our gasoline."
128 What did you mean by that?
129 **A.** What we were very concerned about was that a known
130 carcinogen like benzene would impact a water well, a supply
131 well, and since MTBE was not a known carcinogen and it did have
132 this really low level of taste and odor, the thought in this
133 paragraph is that if it hit a well, if the leading edge of the
134 plume had MTBE in it and it hit a well, the owner of the well
135 would recognize there was something wrong, make complaints. It
136 would allow us to investigate and close down the well before
137 the toxic carcinogen benzene actually reached the well. So it
138 would be an opportunity to get ahead of that benzene plume, and
139 the MTBE would be the warning that would alert the user of the
140 well.
141 **Q.** Had it been your experience with MTBE and BTEX that the
142 BTEX plumes ultimately spread as far as the MTBE plumes?
143 **A.** In my experience with the plume in Jacksonville, Maryland,
144 and Thurmont, the benzene lagged behind the MTBE and generally
145 I didn't see it catch up.
146 **Q.** So the MTBE ultimately was the only contaminant that
147 reached the well, correct?

113 favorable incident record is a result of geohydrologic factors
124 such as depth to potable aquifers, overlining confining layers
125 and cultural factors such as public utility districts supplying
126 drinking water limiting the wells which could be impacted by a
127 spill."
128 You found that MTBE was slightly less hazardous in
129 Texas, in this portion of Texas anyway, because the groundwater
130 was deeper and was protected by clay deposited actually where
131 the Gulf of Mexico used to be, correct?
132 **A.** That was the statement there, the factor that you
133 mentioned, the geology. But also that it wasn't as common to
134 have individual wells because of the depth to water."
135 (Continued on next page)

113 **A.** I mean, not in Jacksonville. The benzene at that time -- I
124 mean, the benzene plume moved also. So I can't say that MTBE
125 was the only contaminant that ever reached the wells.
126 **Q.** Let's go to the next paragraph.
127 "We see no overriding reason to recommend against the
128 use of MTBE in the Texas Pipeline System. However, the
129 decision to utilize MTBE in this system should also consider in
130 the base case economics the capital and expense associated with
131 a program to increase monitoring at affected retail service
132 stations."
133 What did you mean by that? What did you mean by "base
134 case economics?"
135 **A.** What I meant by that was if you were going to consider what
136 it cost to put MTBE in the gasoline or what benefit there would
137 be to put MTBE in the gasoline, you should build into that
138 money for additional monitoring at those service stations,
139 select service stations, that would have MTBE in the gasoline.
140 **Q.** Were you recommending that all gas stations that receive
141 MTBE have such monitoring systems?
142 **A.** No.
143 **Q.** And how would you select which ones would?
144 **A.** What I was recommending, that we look at a kind of a risk
145 assessment, which stores were in sensitive areas, so it would
146 be more problematic and then we would then focus monitoring on
147 those stores.

111 A. Correct.
112 Q. And at that time did Exxon undertake any additional
113 environmental review of the implications of adding MTBE to its
114 gasoline?
115 A. When we introduced MTBE -- before we introduced MTBE, we
116 went to our Exxon Research and Engineering scientists and asked
117 for an evaluation of the health and environmental impacts.
118 Q. That was before you introduced it at all?
119 A. Before we introduced it at all.
120 After we introduced it, we initiated a study with
121 Exxon Research and Engineering Products Research Division,
122 directed and funded a study to look at the remediation of MTBE
123 in gasoline, because that's one of the concerns that had been
124 raised by Real Estate and Engineering.
125 We also advocated with --
126 Q. When was that study?
127 A. That study was -- I'll have to look at the date but I have
128 that information. I can find that.
129 Q. It was after the approval that we have been discussing?
130 A. It was even before the approval. It is when it was raised.
131 It was the fourth quarter of 1984. I don't have the exact date
132 but I can get you the memo.
133 It was the fourth quarter of 1984, and we asked Exxon
134 Research and Engineering Products Research Division to initiate
135 a study -- Marketing funded the study -- to come up with an

111 remediate MTBE-blended gasoline.
112 Q. Once it got out into the environment, correct?
113 A. This was before. This was before --
114 Q. I know. But the remediation assumes that it escapes into
115 the environment, correct?
116 A. That's correct.
117 Q. And so you knew at the time that MTBE would escape to the
118 environment and you were looking at ways to try to reduce the
119 costs of removing it from water once it had already done so?
120 A. What we were trying to do was to prevent it. Our mantra,
121 our corporate philosophy was to prevent gasoline, whether it
122 contained MTBE or didn't contain MTBE, from --
123 Q. Sir, I'm asking about the study that you mentioned, which
124 was to remediate -- which was techniques of remediation.
125 And that was based on the assumption that releases
126 would occur, was it not?
127 MR. BONGIORNO: Objection, your Honor. Could the
128 question wait for the answer to be finished?
129 THE COURT: No.
130 Did you hear the last question?
131 THE WITNESS: Could it be repeated, please?
132 (Pause)
133 THE COURT: I'll read it back.
134 THE WITNESS: Thank you.
135 (Question read)

111 effective and efficient way to remediate MTBE from gasoline,
112 because this is one of the concerns that Barbara Mickelson had
113 raised.
114 Q. So you were looking to see how it could be removed from
115 groundwater once it got there?
116 A. We knew how it did. We wanted a more efficient and a more
117 effective way.
118 Q. I see.
119 A. Secondly --
120 Q. That was because you knew that gasoline tanks leaked,
121 right, and that MTBE would escape into the environment?
122 A. That's correct.
123 I would like to add, if I might, that our records at
124 the time -- and this was part of our decision making -- at the
125 time we had 7,000 retail stores. We only had had 62 leaking
126 incidents. And, really, that 62 is out of a total of 21,000
127 tanks.
128 In addition to that, we had spent \$178 million in the
129 period we're talking about here, 1985, to upgrade our
130 underground tank system. So those were the parts of the
131 information, the studies I think you are referring to, that you
132 are looking for information on.
133 In addition to that, another study that we undertook
134 was a study with the API. We advocated for and helped fund a
135 study at the API to look at effective and efficient ways to

111 A. Yes.
112 Q. In fact, going forward from the initial --
113 A. Could I complete my answer to the question? Because you
114 asked me about the studies and what we had done when we
115 introduced it, and one of the things that we did was we formed
116 a team as part of the introduction, which we referred to in our
117 final review, to follow MTBE from cradle to grave, from the
118 refining through the pipeline to the terminals into the
119 underground storage tanks and retail dispensers at the service
120 station and to the ultimate consumer's car, to see if MTBE did
121 anything unusual. Did it cause leaks is really what we were
122 looking for with respect to underground storage tanks. Did it
123 cause a materials compatibility problem with respect to
124 underground storage tanks?
125 Q. And you discovered that Ms. Mickelson was correct when she
126 said that it was an incremental risk because once it escaped it
127 traveled farther and faster and it reached more receptors, it
128 took longer and was more expensive to remediate than gasoline
129 that did not contain MTBE, didn't you?
130 A. What we -- yes.
131 THE COURT: Is that true, what he said?
132 THE WITNESS: Yes.
133 THE COURT: Yes, OK.
134 BY MR. SHER:
135 Q. Now, you also in this litigation previously were designated

131 as ExxonMobil's corporate representative regarding warnings
132 provided by the premerger of Exxon concerning MTBE; do you
133 recall that?

134 A. Yes.

135 Q. And the jury spent some time with your counterpart for
136 Heritage Mobil yesterday discussing the different relationships
137 that the company had with actual gas stations, and I would like
138 to take just a moment to walk through how Exxon categorized
139 those.

140 As a general matter, am I correct that Exxon generally
141 classified its gas station -- its station customers -- as
142 falling in one of four types? I will take them one at a time.
143 There were corporate-owned retail stations or CORSSs?

144 A. Correct. We call them company operated retail stores,
145 stores we own and operate.

146 Q. Thank you. And those are stations that Exxon owned and
147 operated using Exxon employees, correct?

148 A. Correct.

149 Q. And Exxon owned and operated the underground storage system
150 at those kinds of stores, correct?

151 A. That's correct.

152 Q. OK. And then a second category is branded dealers?

153 A. That's correct.

154 Q. And at those --

155 A. We refer to them as company-owned leased to dealer

156 locations. The company owned the land, the building, the
157 underground storage tanks, the dispensers, and we had a
158 franchise agreement with the dealer. So we call them
159 company-owned leased to dealers in Exxon.

160 Q. COLD?

161 A. COLD.

162 Q. At those locations, then, you own the tank, you own the
163 land and the independent dealers leased them from you, correct?

164 A. Correct.

165 Q. And if there is a spill at this kind of a store, or at one
166 of the company-owned retail stations, Exxon assumed that it was
167 responsible for cleaning it up, correct?

168 A. Correct.

169 Q. And by "spill," I mean a spill or a leak from an
170 underground storage tank system.

171 A. Correct.

172 Q. The third category is branded distributors, right?

173 A. I would say there is another class of trade in Exxon. We
174 had what we called DOSS, D-O-S-S. It was for dealer-owned
175 service station. This is a service station in which the dealer
176 owned the underground storage tanks, owned the land, and we
177 supplied gasoline. But the dealer owned the underground
178 storage tank in this case, whereas with the company-owned
179 leased to dealer, we owned it.

180 Q. And with respect to these DOSSs --

181 A. Yes.

182 Q. -- Exxon did not claim responsibility for the tanks,
183 correct?

184 A. That is correct. He owned -- the DOSS dealer owned and
185 operated those tanks.

186 Q. And if there is a leak or a spill, even though they are
187 called Exxon stations, from Exxon's perspective, the station
188 owners are on their own to address any contamination?

189 A. Well, he was responsible for operating the stations and
190 ensuring that they didn't leak, and if there was a leak he was
191 responsible.

192 Q. And the fourth category is the so-called unbranded
193 distributors, correct?

194 A. No, branded distributors within ExxonMobil -- well, within
195 Exxon at that time.

196 Q. Well, isn't there a category, sir, where the distributors
197 had bought gasoline from Exxon directly but they either owned
198 or sold to gas stations that were not branded as Exxon
199 stations?

200 A. Correct.

201 And could I explain "branded" and then I will get to
202 "unbranded" to give you a clear picture of all the classes of
203 trade that we dealt with?

204 Q. Sure.

205 A. The branded distributors, they flew the Exxon flag. They

206 owned either a store or they supplied gasoline to a store, but
207 they picked up the gasoline at the terminal. We supplied the
208 gasoline to all the other classes of trade that I just
209 described.

210 But for branded distributors, they came to the
211 terminal and picked up the product in their own trucks or in
212 leased trucks and delivered it to their stations.

213 And then you have the unbranded distributors who did
214 not fly the Exxon flag. The unbranded distributor would pick
215 up product at the terminal and deliver it to a store or stores,
216 but it didn't have -- it could be XYZ, it could be 7-Eleven, it
217 could be any store but it wasn't flying the Exxon flag.

218 Q. So it could be Joe's gas?

219 A. Correct.

220 Q. And in your experience and familiarity with the gasoline
221 distribution, is it right that these unbranded distributors are
222 motivated primarily by price as to who they buy their gasoline
223 from?

224 MR. BONGIORNO: Objection, your Honor. He is asking
225 state of mind of unbranded dealers.

226 THE COURT: Yes. Objection sustained.

227 Q. In any event, those unbranded dealers, in your experience,
228 might have Exxon gas in the tank one day, the next day it could
229 be Shell, the next day it could be Citgo, correct?

230 A. Correct.

111 Q. And depending on their own factors.
112 Now, there are fewer company-owned retail stores today
113 than there were in the past, isn't that right?
114 A. Correct.
115 Q. And that is in part because during the late 1970s and
116 through the 1980s, Exxon sold off a number of sites, correct?
117 A. I wouldn't describe them as selling them off. A lot of
118 them were converted to dealer operated or were purchased by
119 branded distributors.
120 Q. Sir, would you agree that if a company knows the dangers of
121 its products, it has a duty to warn about those dangers?
122 A. Yes.
123 Q. Would you agree that a company has the duty to warn those
124 that handle the products and those that may be injured by it?
125 A. Yes.
126 Q. And Exxon would distribute with its gasoline a material
127 safety data sheet, correct?
128 A. That's correct.
129 Q. That's required by the federal government to describe
130 certain health hazards associated with the handling of
131 gasoline?
132 A. Correct.
133 Q. Did Exxon ever take any steps to ensure that its MSDS
134 sheets made its way to mom-and-pop station owners?
135 A. Those weren't our customers. So, no, we did not.

111 component it contained, our thrust was gasoline and the
112 handling of gasoline. That was the key concern. And that's
113 what was reflected in the MSDS.
114 Q. And Exxon didn't believe that the incremental environmental
115 risk posed by MTBE was appropriate for an MSDS, am I right?
116 A. Well, MSDS -- the purpose of an MSDS was to provide
117 primarily health-related information to a customer. And MTBE
118 was, from our perspective, virtually innocuous from a health
119 perspective. So there was no health information to provide to
120 them.
121 Q. Is there any reason that you can think of that an MSDS
122 could not contain environmental safety information?
123 A. No.
124 Q. But Exxon chose not to put it on its MSDS, correct?
125 A. Correct.
126 Q. You mentioned that unbranded stations, or independent
127 stations receive their gasoline from unbranded distributors
128 from -- who had gotten their gasoline from Exxon; do you recall
129 that?
130 A. Yes.
131 Q. Yes. Did Exxon direct unbranded distributors to give
132 warnings to their customers?
133 A. I don't know.
134 Q. Did Exxon direct those unbranded distributors to pass on
135 the MSDSs that they received from Exxon?

111 We made sure that we supplied them to our customer,
112 and our customer was the unbranded distributor. We did not
113 know where the unbranded distributor was delivering the
114 gasoline.
115 Q. So the MSDSs, which described the health effect of Exxon's
116 gasoline, would not reach unbranded stations, correct?
117 A. I don't know if they would or they wouldn't. We would be
118 providing them to the unbranded distributor. If the unbranded
119 distributor turned and gave them to the account that they were
120 delivering to, yes, they would receive them.
121 Q. Now, the MSDSs did not contain any of the incremental
122 environmental risk information that Barbara Mickelson has
123 identified, about MTBE traveling farther and faster, a lower
124 taste and odor threshold, impacting more wells and things like
125 that, did they?
126 A. No, they didn't. And can I explain why?
127 Q. No. You can -- can you explain -- I'm sorry, was your
128 question could you explain why?
129 A. Yes. Could I explain why?
130 Q. Yes, of course. I was saying no, they did not, to follow
131 up on your no.
132 You can answer. Go ahead.
133 A. Thank you. Our concern and our thrust was gasoline.
134 Whether it contained MTBE, ethanol, TBA, whatever it
135 contained -- whatever oxygenate it contained, whatever

111 A. We could not direct them to do that.
112 Q. So --
113 A. And could I explain why on that issue?
114 Q. I think counsel will have a chance to bring this out on
115 redirect, if he wants to -- or cross.
116 A. I'm sorry.
117 Q. So Exxon never warned the owners of its branded dealers in
118 the MSDS concerning MTBE's incremental environmental risk,
119 right?
120 A. The purpose of an MSDS is to provide health information,
121 hazard information, so when you're handling the product at a
122 retail store, if something happens to you from an inhalation
123 perspective or you get it on your hands, that is the kind of
124 information, the actionable information, that an MSDS is to
125 provide.
126 Q. I see. So the answer is no, correct?
127 A. No.
128 Q. Well, it is correct that the --
129 A. I apologize. I was trying to tell you yes, what it was.
130 Q. Is there any other written warnings that Exxon provided to
131 company-owned retail stations concerning the incremental risk
132 posed to the environment by MTBE other than the MSDSs?
133 A. There was no need to, no.
134 Q. So no information to the company-owned stores about
135 environmental incremental risk, is that right?

111 A. No.
 112 Can I answer why?
 113 Q. Yes.
 114 A. The reason is our concern was gasoline. We wanted to keep
 115 gasoline out of the environment. So if you are talking about
 116 the environmental concern about it leaking, our concern was
 117 gasoline. And we trained our company-operated retail store
 118 managers, our dealer-operated retail store managers and our
 119 branded distributors, before they could even become those, of
 120 the hazards of gasoline and keeping gasoline out of the
 121 environment. Whether it contained MTBE or not was not the
 122 issue.
 123 Q. Did you succeed in eliminating releases of gasoline to the
 124 environment?
 125 A. No, but we did an outstanding job. As you will recall, we
 126 had 62 incidents of leaking underground storage tanks at 7,000
 127 stores. This was in 1985 when we made the decision. At 7,000
 128 retail stores, there were three tanks at each store; that was
 129 21,000 tanks. We had 62. But even for those 62, we had
 130 initiated a study of each one of those to determine the cause,
 131 to preclude that from occurring in the future.
 132 Q. Sir, those were -- isn't it true, sir, that you did not
 133 test all of the tanks at all of those facilities for the
 134 statistic that you just gave? Those were 60-plus-odd known
 135 incidents of leaks, isn't that right?

136 A. Correct. That's correct. But I don't know if we did or we
 137 didn't test. That was Real Estate and Engineering.
 138 What I asked for, when we gathered information to make
 139 the decision whether to use MTBE, was what is going on with our
 140 leaking Underground Storage Tank Program, what is our
 141 experience factor, what do we know, how are we doing. And I
 142 knew we were spending a lot of money and I didn't know how much
 143 when I asked for that before we made the decision. That's when
 144 I found out we spent \$178 million in that five-year period on
 145 underground storage tank upgrading alone, and found out that we
 146 had 62 of 7,000. Now, whether they went out at every store or
 147 not, I don't know. That's the data they provided to me in the
 148 decision making process that we were under.
 149 Q. Once Exxon made the decision to add MTBE to gasoline, did
 150 releases of gasoline containing MTBE from Exxon-owned stores
 151 stop?
 152 A. No.
 153 Q. They continued throughout the 1980s, correct?
 154 A. Correct.
 155 Q. And throughout the 1990s, correct?
 156 A. Correct.
 157 Q. Throughout the 2000s, until MTBE was banned from gasoline,
 158 correct?
 159 A. They continued after 2000.
 160 Again, you're making some relationship to MTBE causing

161 a release in the underground storage tanks from my perspective,
 162 and that's not true.
 163 Q. No. I don't intend to argue with you. I'm asking you
 164 about warnings to the company-owned retail stores of the
 165 incremental risk posed by MTBE when it was released, and were
 166 any such warnings provided to your company-owned stores of that
 167 incremental risk?
 168 A. No, and nor should they have been.
 169 Q. Sir, with respect to owner-leased stores, dealer-leased
 170 stores --
 171 A. Yes.
 172 Q. -- did you provide any warnings of the incremental risk
 173 posed by MTBE once it was released from underground storage
 174 systems?
 175 A. No, and nor should we have.
 176 Q. And did you provide any warnings to any of the distributors
 177 who flew Exxon branded flags at their stations of the
 178 incremental environmental risk posed by MTBE in gasoline?
 179 A. No, and nor should we have.
 180 Q. And did you provide any warnings to any nonbranded stations
 181 with respect to the incremental risk posed by MTBE in gasoline?
 182 A. No, and nor should we have.
 183 May I answer why?
 184 Q. With respect to --
 185 THE COURT: You know, it is really not appropriate.

186 Why don't you wait for your counsel on cross, and I'm sure they
 187 will ask you whatever they want.
 188 THE WITNESS: I'm sorry.
 189 THE COURT: That is OK.
 190 MR. SHER: Thank you, your Honor.
 191 BY MR. SHER:
 192 Q. With respect to this incremental risk, you understood it to
 193 include the fact that MTBE could travel farther and faster in
 194 the subsurface than gasolines that did not contain MTBE,
 195 correct?
 196 A. Yes.
 197 Q. You understood it to include the likelihood that a plume of
 198 MTBE in the subsurface would be more likely to reach a private
 199 or public well than gasoline that did not contain MTBE, didn't
 200 you?
 201 A. Yes.
 202 Q. And you understood that incremental risk to include the
 203 fact that cleanup could take longer than for gasoline that did
 204 not contain MTBE, correct?
 205 A. Yes.
 206 Q. And you understood that incremental risk to include that
 207 the cleanup of the sites where MTBE was released from the
 208 underground storage system could be more expensive than where
 209 MTBE was not present, correct?
 210 A. Correct.

111 Q. You understood it to include that the costs of treating a
112 well contaminated with MTBE would occur more frequently and
113 would be more expensive than if the gasoline did not contain
114 MTBE at the site, correct?

115 A. It could.

116 Q. And your company provided no warnings to anybody about
117 those prospects in connection with MTBE in gasoline, correct?

118 A. Correct.

119 MR. SHER: I have no further questions, your Honor.

120 THE COURT: All right. Mr. Bongiorno.

121 MR. BONGIORNO: Thank you, your Honor. If I could, I
122 will just swap out the notebooks.

123 THE COURT: That is OK.

124 CROSS-EXAMINATION

125 BY MR. BONGIORNO:

126 Q. Good afternoon, Mr. Dugan.

127 A. Good afternoon.

128 Q. Do you recall moments ago Mr. Sher was asking you whether
129 you could direct unbranded distributors what to tell the
130 stations to which they delivered?

131 A. That's correct, I do.

132 Q. And you said no and you wanted to tell him why not and he
133 asked you to wait. Do you remember that?

134 A. Yes.

135 Q. Would you now tell us why not?

111 out of a total of 7,000 stores; that's 21,000 tanks. Even with
112 those 62 we were not satisfied. We were looking at each one of
113 those individually to determine why they leaked, what was it
114 that caused it, so we could take action to preclude that from
115 occurring in the future.

116 The key was MTBE was not causing underground storage
117 tanks to leak; it was somebody not taking care of their
118 underground storage tanks.

119 Q. Mr. Dugan, I would like to direct your attention to a
120 document -- it is in the defense notebook I just handed to you
121 at Tab 5. For the record, and so there is no misunderstanding,
122 the D number is 12489.

123 Now, Mr. Sher just showed you this document when he
124 was looking at his book at PI 302. But just to keep you in one
125 book, stay with mine, the black notebook.

126 A. Got it.

127 Q. Tab 5.

128 A. Mm-hmm.

129 MR. BONGIORNO: Dave, if you can pull up the very
130 first page, please.

131 Q. He was showing you this June 10, 1985 memo from Mr. Raglin
132 to Mr. Pearman and Mr. Larkins. Do you remember he was asking
133 you about that?

134 A. Correct.

135 Q. He was then asking you about the series of memoranda

111 A. Yes. The Petroleum Marketing Practices Act, the federal
112 act that directs how we -- in our relationship with our
113 unbranded customers as well as our branded distributors as well
114 as our dealer-operated stores, precludes that.

115 Q. That's federal law which precludes it?

116 A. It is.

117 Q. Do you also recall that Mr. Sher was asking you a series of
118 questions about whether you provided warnings of the
119 incremental environmental risk, and you were saying "No, nor
120 should we have?"

121 A. That is correct.

122 Q. You also wanted to say why you should not have. Do you
123 remember that?

124 A. Yes, I do.

125 Q. Mr. Sher asked you to wait.

126 A. Yes.

127 Q. So could you now tell us why you should not have?

128 A. Our mantra, our doctrine, our philosophy, our objective at
129 Exxon was to keep gasoline out of the environment. Whether
130 that gasoline contained MTBE or not was not important to us.
131 The important thing was to keep the gasoline out of the
132 environment.

133 And we had spent -- we put our money where our mouth
134 was. We spent \$178 million in 1980 to '85 to upgrade all of
135 the tanks we owned. We had an incident -- 62 leaking incidents

111 attached to it.

112 And I would like to direct your attention --
113 Mr. Dugan, maybe the easiest way to do it would be to go to
114 your monitor because there are not page numbers at the bottom.
115 But he was directing your attention to an attachment dated
116 January 2, 1985, from Mr. Olsen to Mr. Mixter, and he was
117 highlighting for you certain sections. And I want Dave to pull
118 up the first one, "Water solubility of MTBE."

119 In that first bullet point, Mr. Sher only read the
120 first clause. I want to read the rest of it.

121 Does it not say: "MTBE is substantially more water
122 soluble than gasoline" -- and now the part that was left out --
123 "but much less soluble than ethyl or methyl alcohols."

124 That's what it says, correct?

125 A. Correct.

126 Q. And would you agree that ethanol is an ethyl alcohol?

127 A. Yes.

128 Q. Now, on the next page Mr. Sher also showed you some
129 language but he left some out. So I would like to highlight
130 what he left out.

131 When he was asking you about distinctive taste and
132 odor, I don't think we got down to the third bullet point. So
133 why don't we read that one now, and you can tell me if I read
134 this correctly.

135 "However, since we are already committed to keeping