

# EXHIBIT 2

Confidential - William Reeves

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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

IN RE: ROUNDUP PRODUCTS MDL NO. 02741  
LIABILITY LITIGATION

THIS DOCUMENT RELATES TO: Hon. Vince Chhabria  
ALL ACTIONS

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(30(b)(6) CAPACITY FOR MONSANTO COMPANY )  
VOLUME II  
VIDEOTAPED DEPOSITION OF WILLIAM REEVES  
TAKEN ON BEHALF OF THE PLAINTIFFS  
JANUARY 24, 2019

1 through screening to make sure that they can be  
2 used safely. EPA handles them by breaking them  
3 into groupings. So surfactants that have similar  
4 chemical properties are all grouped together, and  
5 there are several -- they call them clusters and  
6 there -- there's numerous clusters.

7 Q Okay. So all of the surfactants are  
8 -- that Monsanto uses undergo the same extent of  
9 safety testing as -- as glyphosate does as well?

10 A They -- they do many of the -- of the  
11 same studies. It's not identical. They -- they do  
12 a -- so EPA's -- part of their assessment is to  
13 make sure they can answer all these questions but  
14 they may use different data to do it.

15 Q Okay. Now, you -- there was a series  
16 of questions where you were asked if Monsanto had  
17 ever done a long-term carcinogenicity study on --  
18 on Roundup.

19 A I do recall that.

20 Q What are the problems with performing  
21 a long-term carcinogenicity study on a formulated  
22 product like Roundup?

23 A There -- there are a few reasons,  
24 several reasons actually, why we haven't done that  
25 kind of a test with the full formulated product to

1 go from, you know, a two year long study in rats or  
2 18 month study in mice.

3           You know, first of all, when we look  
4 across the data we have available, you know, when  
5 we look at the epidemiology data, what we're seeing  
6 is a -- a consistent message from those studies  
7 that, you know, whether you're talking about the --  
8 the cohort studies, the Agricultural Health Study  
9 reports, there is no relationship between  
10 glyphosate and cancer.

11           When we look at the -- the  
12 case-control studies, some of the ones we discussed  
13 yesterday, De Roos, McDuffie, studies like that,  
14 what we see is that when you adjust for other  
15 exposures in these people's lives, the relationship  
16 between glyphosate use and cancer diminishes and  
17 becomes non-statistically significant. So the  
18 epidemiology data overall are telling us there  
19 really isn't a relationship here.

20           When we look at the information we  
21 have about glyphosate and the surfactant, the  
22 surfactants by themselves, we're also seeing  
23 information, all the information we have from  
24 these, you know, these studies conducted according  
25 to the international protocols under good

1 laboratory practices are telling us there is no  
2 relationship between glyphosate and -- and these  
3 surfactants and the ability to cause cancer in an  
4 experimental system.

5 So we know from human data under --  
6 gathered under real world conditions, we know from  
7 experimental system data, whether that's animals or  
8 some of the cell studies we mentioned, we're not  
9 seeing anything there that's telling us there is a  
10 reason to do that sort of testing.

11 And then the other issues you think  
12 about is the feasibility. You know, so we have  
13 this problem --

14 Q So let me --

15 A I'm sorry.

16 MR. BRENZA: Let's -- let's just go  
17 off the record for a second because we're getting  
18 some sirens.

19 THE VIDEOGRAPHER: We are going off  
20 the record at 5:44 p.m.

21 (A recess was taken.)

22 THE VIDEOGRAPHER: We are back on the  
23 record at 5:46 p.m.

24 Q (BY MR. BRENZA) Now, I interrupted  
25 you. You were about to explain the feasibility

1 problems that might exist if -- if you tried to  
2 perform a long-term carcinogenicity study on  
3 rodents.

4 A Yes, our concern there --

5 Q On -- on formulated product.

6 A With formulated product, yes. The,  
7 you know, the concern we have about feasibility is  
8 whether or not you can obtain, you know, useful  
9 data. Can you get data from a study like that that  
10 can answer the question in -- in a way that, you  
11 know, is -- is meaningful.

12 When you think about feeding an  
13 animal a surfactant, these are essentially soaps.  
14 If I give them too large of a dose, they're going  
15 to get sick. Soaps, surfactants, when you -- when  
16 you feed them to animals, they cause irritation in  
17 their stomachs. They're either sick or they won't  
18 eat. Sick animals, you do not conduct studies on  
19 sick animals for two years and get meaningful data  
20 at the other end. So we need to be very careful  
21 about that.

22 The challenge comes when, if I have a  
23 formulated product, I need to keep the ratio of  
24 glyphosate to surfactant the same as it would be,  
25 you know, in the -- in the product. And in order

1 to have enough glyphosate in there for -- so one of  
2 their issues we mentioned earlier, the first rat  
3 study, they said the glyphosate doses were too low,  
4 we can't -- this isn't meaningful. So we need to  
5 be able to reach a certain level of glyphosate.

6 In order to reach those levels of  
7 glyphosate to have confidence that if we are going  
8 to see something we would have, the surfactant at  
9 that point is so high, you've made the animals --  
10 you've -- you've essentially irritated their  
11 stomachs, their digestive system so much, they're  
12 not going to eat, they're going to be sick animals.

13 And so that, you know, at that point  
14 you realize there isn't much feasibility there.  
15 We're going to have to think about other ways to  
16 answer that kind of question. And we already have  
17 that information that we need.

18 We, you know, as I mentioned, the  
19 epidemiology data are telling us we don't have a  
20 relationship between glyphosate-based herbicide use  
21 and cancer, the animal data are telling us we're  
22 not seeing anything here that would indicate the  
23 ability to cause cancer, and then the cell studies,  
24 these mechanistic studies we talked about, also  
25 show us, either with -- whether it's with the

1 formulated product or the individual components  
2 alone, these products don't cause some -- don't  
3 result in some change, you know, either in whole  
4 animals or in cellular systems in, you know, cells  
5 growing in a laboratory, that would indicate the  
6 potential to cause cancer.

7 Q Has -- has Monsanto considered the  
8 possibility that there is some synergistic effect  
9 between glyphosate and the surfactant in a  
10 formulated product?

11 A Yes, and part of my role, as I  
12 discussed in scientific affairs, was compiling that  
13 -- that information from experts within the company  
14 and, you know, adding my thoughts to it so that we  
15 could have our position on that, you know, what do  
16 we -- what do we think about the potential for  
17 interactions to occur.

18 Q What's the -- what is the answer to  
19 that gly -- that Monsanto has reached?

20 A That we do not believe there is a  
21 potential for an interaction.

22 Q How does that relate to the work you  
23 did with hydrocarbon mixtures?

24 A It -- it's a similar idea, you know,  
25 and really what it comes down to is, you know, when