594. Specifically, in the Staff Report discussion of distillation temperatures for the proposed regulations, staff cited to studies from Toyota, Unocal, and GM/WSPA/ARB to support its regulation of T50. (CX 5 at 028). The Staff Report says that the Toyota and Unocal studies show that reducing T50 results in a decrease in VOC and CO emissions and has no significant effect on NOx emissions (oxides of nitrogen). (CX 52 at 033; Venturini, Tr. 744). But CARB staff cited the GM/WSPA/ARB volatility study as showing " that T50 is one of the major parameters to consider." (CX 52 at 033).

595. In the Technical Support Document, staff led off its discussion of T50 with Toyota's study. (CX 5 at 028). The staff included a chart from Toyota and two from Unocal showing directionally that lowered T50 reduced emissions. (CX 5 at 030-032). But Mr. Venturini admitted that CARB already had enough information to know directionally where T50 would go even without the Unocal study. (Venturini, Tr. 381-82, 763-64).

596. In a separate section of the Technical Support Document, CARB does include a table that the CARB staff created, titled Sensitivity Analysis of T50 Changes on Exhaust Emissions using Unocal Regression. (Venturini, Tr. 758; CX 5 at 033). That analysis did not enter into CARB's evaluation of the emissions benefits; it merely demonstrated the effect of T50 on emissions:

> The staff used different models in the technical discussion of the effects of fuel properties on emissions. However, this approach did not enter into the evaluation of emission benefits. Therefore there is not need to address the comparative accuracy of the models.

(CX 10 at 075; *accord* Fletcher, Tr. 6468 (testifying that CARB used Unocal's equations to show what happened to emissions when you reduce T50)).

1351. {[redacted]} (RX 1165 at 039, *in camera*). {[redacted]} (RX 1165 at 036-047, *in camera*). {[redacted]} (RX 1165 at 039, *in camera*). {[redacted]} (RX 1165 at 039, *in camera*). {[redacted]} (RX 1165 at 039, *in camera*).

1352. {[redacted]} (Sarna, Tr. 6254-58, 6261-66, *in camera*; RX 1154A at 007-010, *in camera*).

1353. {[redacted]} (Stellman, Tr. 8078-79, *in camera*; RX 1165 at 024-029, *in camera*). {[redacted]} (RX 1165 at 024-029, *in camera*).

1354. {[redacted]} (Stellman, Tr. 8083-84, *in camera*; RX 1165

1358. Complaint Counsel proffered the testimony of expert witness Mr. Michael Sarna, who opined that there are no "practical steps" refiners can do that would enable them to maintain their current CARB 2 production and avoid the Unocal patents. (RX 1154 at 004). But Mr. Sarna's opinion was limited to the current configuration of the refineries and he did not look at any modification that required a unit shutdown. (RX 1154 at 004; Sarna, Tr. 6382-85). Mr. Sarna also was not asked to consider whether there were steps refiners could take which would allow them to reduce (but not completely avoid) matching. (Sarna, Tr. 6380-81).

1359. Professor Shapiro could not point to anything in his reports describing the efforts of refiners to avoid infringing the Unocal patents. (Shapiro, Tr. 7335-36). In fact, at the time Professor Shapiro wrote his report he did not know whether or not refiners had made serious efforts to blend around or otherwise avoid the claims of the Unocal patents. (Shapiro, Tr. 7336).

1360. Professor Teece gave a hypothetical example to illustrate why high matching rates do not indicate that infringement rates would be high or otherwise demonstrate that Unocal has any market power. (Teece, Tr. 7556-65, RX 1207 (demonstrative)). Unocal's five patents together contain hundreds of claims, but if for simplicity's sake one assumed a hypothetical patent with just five patent claims with various matching rates associated with each claim, it is possible to see how a variety of factors could, in Professor Teece's words, "create a wedge" between the matching rate and the infringement rate. (Teece, Tr. 7557). Professor Teece showed how factors such as a claim being held invalid, a claim being construed narrowly (such as a construction that the claim did not include gasolines blended with ethanol), a claim having an easy work-around solution (such as is observed with the '393 claims) and CARB changing the regulations to make it easier to blend within a particular claim (as the refiners have requested of CARB) could affect a hypothetical matching rate