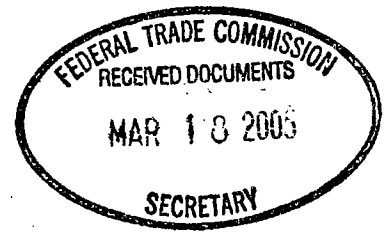


UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION



In the Matter of

UNION OIL COMPANY OF CALIFORNIA,
a corporation.

PUBLIC VERSION

Docket No. 9305

ERRATA SHEET

Certain references contained in Complaint Counsel's Post-Trial Brief and Post-Trial Findings of Fact, the public version, which was filed on March 16, 2005, should be corrected by replacing the originally-submitted pages with the attached corrected pages.

Respectfully submitted,

A handwritten signature in black ink that reads "Sean P. Gates".

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CERTIFICATE OF SERVICE

I, Terri Martin, hereby certify that on March 18, 2005, I caused a copy of the public version of Complaint Counsel's Errata Sheet with corrected pages to be served upon the below listed persons:

VIA HAND DELIVERY & ELECTRONIC MAIL TO:

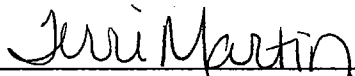
The Honorable D. Michael Chappell
Administrative Law Judge
U.S. Federal Trade Commission
600 Pennsylvania Avenue, NW
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E-Mail c/o Dana Gross (dgross@ftc.gov)

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Terri Martin

**UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION**

DOCKET NO. 9305

PUBLIC VERSION

**IN THE MATTER OF
UNION OIL COMPANY OF CALIFORNIA**

**COMPLAINT COUNSEL'S PROPOSED
FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER**

(VOLUME I)

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Bureau of Competition
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percent from motor vehicles” no later than December 31, 2000;

- b. Take actions “to achieve the maximum feasible reduction in particulates, carbon monoxide, and toxic air contaminants from vehicular sources”; and
- c. Adopt standards and regulations that would result in “the most cost-effective combination of control measures on all classes of motor vehicles and motor vehicle fuels” including the “specification of vehicular fuel composition.”

(CCPF ¶¶ 223-245).

- 9. Following the 1988 California Clean Air Act amendments, CARB embarked on two rulemakings relating to low-emissions gasoline. In these proceedings, “Phase 1” and “Phase 2,” CARB prescribed limits on specific gasoline properties. (CCPF ¶¶ 223-450).
- 10. In the Phase 2 reformulated gasoline proceedings, on which this case focuses, CARB developed comprehensive standards for low-emissions gasoline, commonly referred to as “reformulated gasoline” or “RFG.” (CCPF ¶¶ 246-262). Reformulated gasoline is “cleaner burning gasoline that pollutes less” than standard conventional gasoline. (RX 116 at 001). Generally, reformulated gasoline involves limitations on the properties of gasoline intended to be sold in more densely populated areas where ambient conditions don’t disperse pollutants very effectively. (RX 922 at 144-145).
- 11. Beginning in 1990 and continuing throughout the CARB Phase 2 rulemaking second implementation, Unocal provided materially misleading information to CARB for the purpose of obtaining competitive advantage. (CCPF ¶¶ 1030-1435).
- 12. This information was materially misleading in light of Unocal's suppression of facts relating to the Unocal proprietary interests in Unocal’s emissions research results and Unocal's active prosecution and enforcement of patents based on these research results. (CCPF ¶¶ 1030-1435, 3948-4247, 4358-4447).
- 13. Unocal gave CARB this information in private meetings with CARB, through participation in CARB's public workshops and hearings, and through industry groups that also were commenting on the CARB regulations. (CCPF ¶¶ 1030-2038, 2085-2116, 2275-2325).
- 14. On June 11, 1991 CARB held a public workshop regarding the Phase 2 regulations. (CCPF ¶¶ 935-1029).

24. Unocal made numerous subsequent statements and comments to CARB that reinforced the materially false and misleading impression that Unocal had created. (CCPF ¶¶ 1030-1435, 2085-2167).
25. In reasonable reliance on Unocal's representation that the information was no longer proprietary, CARB used Unocal's equations in setting a T50 specification. (CCPF ¶¶ 4063-4247).
26. Subsequently, in October 1991 CARB published Unocal's equations in public documents supporting the proposed Phase 2 regulations. (CX 5).
27. On November 22, 1991, CARB adopted Phase 2 regulations that set standards for the composition of low-emissions Gasoline with specific limits for eight gasoline properties. (CCPF ¶¶ 2117-2167).
28. Unocal's pending patent claims recited limits for five of the eight properties specified in the CARB Phase 2 regulations, including T50. (CX 1709 at 015; RX 1165A at 012).
29. In June 1994, CARB amended the Phase 2 regulations to include, as an alternative method of complying, a predictive model that was intended to provide refiners with additional flexibility. (CCPF ¶¶ 218-221).
30. This "predictive model" permits a refiner to comply with the CARB regulations by producing fuel that – based on the composition and the levels of the eight properties – is predicted to have emissions equivalent to a fuel that meets the strict gasoline property limits set forth in the regulations. (CCPF ¶¶ 218-221).
31. During the development of the predictive model, Unocal submitted comments to CARB touting the predictive model as offering flexibility and furthering CARB's mandate of cost-effective regulations. (CCPF ¶¶ 2275-2325).
32. Unocal's statements were materially false and misleading because Unocal suppressed the material fact that assertion of Unocal's proprietary rights would materially increase the cost and reduce the flexibility of the proposed regulations. (CCPF ¶¶ 3948-4062).
33. Throughout Unocal's communications and interactions with CARB prior to January 31, 1995, Unocal failed to disclose that it had pending patent rights, that Unocal's patent claims overlapped with the proposed regulations, and that Unocal intended to charge royalties. (CCPF ¶¶ 2574-2590).
34. Unocal's misrepresentations and materially false and misleading statements caused CARB to adopt Phase 2 regulations that substantially overlapped with Unocal's concealed patent claims, including CARB's adoption of a specification for T50 in the CARB Phase 2

45. One of the studies submitted by WSPA and used by CARB to determine the cost-effectiveness of the proposed Phase 2 standards, incorporated information relating to royalty rates associated with refiner patents, including Unocal hydrocracking patents, and could have incorporated costs associated with Unocal's pending patents. (CCPF ¶¶ 1934-2038).
46. Unocal's presentation of the 5/14 Project research results to WSPA on September 10, 1991 created the materially false and misleading impression that Unocal's emissions research results, including the data and equations, were nonproprietary and could be used by WSPA or WSPA's individual members without concern for the existence or enforcement of any intellectual property rights. (CCPF ¶¶ 1749-1842).
47. Unocal's interactions with Auto/Oil and WSPA prior to January 31, 1995 failed to disclose Unocal's pending patent rights and Unocal's intention to charge royalties, and included false and misleading statements concerning Unocal's proprietary interests in the results of Unocal's emissions research. (CCPF ¶¶ 1749-1842).
48. None of the participants in the WSPA or Auto/Oil groups knew of the existence of Unocal's proprietary interests and/or pending patent rights at any time prior to the issuance of the patent in February 1994, by which time most, if not all, of the oil company participants to these groups had made substantial progress in their capital investment and refinery modification plans for compliance with the CARB Phase 2 regulations. (CCPF ¶¶ 3803-3948).
49. But-for Unocal's fraud, these participants in the rulemaking process would have taken actions including, but not limited to (a) advocating that CARB adopt regulations that minimized or avoided infringement on Unocal's patent claims; (b) advocating that CARB negotiate, or themselves negotiate, license terms substantially different from those that Unocal was later able to obtain; and/or (c) incorporating knowledge of Unocal's pending patent rights in their capital investment and refinery reconfiguration decisions to avoid and/or minimize potential infringement. (CCPF ¶¶ 4433-4716).
50. The relevant Unocal patent claims all derive from patent application No. 07/628,488, filed on December 13, 1990. (Answer ¶ 15; JX 3A at 003).
51. Following the November 1991 adoption of CARB's Phase 2 specifications, Unocal amended Unocal's patent claims in March 1992 to ensure that the claims more closely matched the CARB Phase 2 regulations. (CCPF ¶¶ 2630-2691).
52. On or about July 1, 1992 Unocal received an office action from the U.S. Patent and Trademark Office ("PTO") indicating that most of Unocal's pending patent claims had been allowed, and in February 1993, after submission of additional amendments, Unocal

CARB-compliant summer-time gasoline in California. (CCPF ¶¶ 2817-2849).

64. The extensive overlap between the CARB reformulated gasoline regulations and the Unocal patent claims makes avoidance of the Unocal patent claims technically and/or economically impossible. (CCPF ¶¶ 3174-3654).
65. Refiners, having invested billions of dollars in sunk capital investments without knowledge of Unocal's patent claims to reconfigure their refineries in order to comply with the CARB Phase 2 regulations cannot produce significant volumes of non-infringing CARB-compliant gasoline without incurring substantial additional costs. (CCPF ¶¶ 3803-3947).
66. CARB cannot now change the CARB reformulated gasoline regulations sufficiently to provide flexibility for refiners and others to avoid Unocal's patent claims. (CCPF ¶¶ 3703-3802).
67. Had Unocal disclosed Unocal's proprietary interests and pending patent rights earlier, CARB would have been able to consider the potential costs imposed by the Unocal patents, and the harm to competition and to consumers would have been avoided. (CCPF ¶¶ 4338-4447).
68. Unocal has exercised, and continues to exercise, market power through business conduct by enforcing the Unocal reformulated gasoline patents through litigation and licensing activities. (CCPF ¶¶ 2692-2757).
69. Unocal's actions have caused harm to competition and substantial consumer injury. (CCPF ¶¶ 4717-4762).

C. Background on Key Players.

1. Union Oil Company of California.

70. Union Oil Company of California is a public corporation organized, existing, and doing business under, and by virtue of, the laws of California. Unocal's office and principal place of business is located at 2141 Rosecrans Avenue, Suite 4000, El Segundo, California 90245. (Answer ¶ 11; JX 3A at 002).
71. Since 1985, Union Oil Company of California has done business under the name "Unocal." (Answer ¶ 11; JX 3A at 002).
72. Unocal is, and at all relevant times has been, a corporation as "corporation" is defined by Section 4 of the Federal Trade Commission Act, 15 U.S.C. § 44; and at all times relevant herein, Unocal has been, and is now, engaged in commerce as "commerce" is defined in

the same provision. (Answer ¶ 12; JX 3A at 001).

73. Prior to 1997, Unocal owned and operated refineries in California as a vertically integrated producer, refiner, and marketer of petroleum products. (Answer ¶ 13; JX 3A at 002).
74. In March 1997, Unocal completed the sale of the Unocal west coast refining, marketing, and transportation assets to Tosco Corporation, but continued to engage in oil and gas exploration and production. (Answer ¶ 13).
75. Unocal is the owner, by assignment, of the following patents relating to low emissions, reformulated gasoline: United States Patent No. 5,288,393 (issued February 22, 1994); United States Patent No. 5,593,567 (issued January 14, 1997); United States Patent No. 5,653,866 (issued August 5, 1997); United States Patent No. 5,837,126 (issued November 17, 1998); United States Patent No. 6,030,521 (issued February 29, 2000). (Answer ¶ 15; JX 3A at 003; Croudace, Tr. 339; Wirzbicki, Tr. 880; CX 617; CX 618; CX 619; CX 620; CX 621).
76. These five patents all share the identical specification. (Answer ¶ 15; JX 3A at 003).
77. These five patents all arise from the same scientific discovery and are related in that they all claim priority based on application number 07/628,488, filed December 13, 1990. (Answer ¶ 15; JX 3A at 003).

Roger Beach

78. Roger Beach became President of Unocal's 76 Division in April 1986. (CX 1578 at 002; Beach, Tr. 1650-1651).
79. Within Unocal, the 76 Division was also referred to as Refining and Marketing. (Beach, Tr. 1676).
80. In 1992, Mr. Beach was appointed COO and President of Unocal Corporation. (Beach, Tr. 1651; CX 593 at 001).
81. In 1994, Mr. Beach was promoted to Chief Executive Officer of Unocal. (Beach, Tr. 1651; CX 1005 at 001; CX 374 at 001).
82. In 1995, one year after being appointed CEO, Mr. Beach became the Chairman of the Board for Unocal. (Beach, Tr. 1651; CX 905 at 001; CX 714 at 001).
83. Mr. Beach served as a member of California's A.B. 234 study panel (the "Leonard Commission") on alternative fuels. (Beach, Tr. 1744; Boyd, Tr. 6693).

189. Gasoline is produced from crude oil. Crude oil is a mixture of many different chemical compounds and is described in terms of the particular crude's gross physical properties. (Eskew, Tr. 2824).
190. Petroleum refining is a complex industrial process. The primary activity is that crude oil is converted and processed into a variety of petroleum products that are used in many different markets. (Eskew, Tr. 2821).
191. Crude oil does not have a distinct boiling point, rather it boils over a wide range of temperatures. The portions of the crude oil that boil at specified temperature ranges are called fractions. Crude oil is described in terms of these fractions. (Eskew, Tr. 2824-2825).
192. To make gasoline, crude oil is brought into the refinery, and then split into different streams depending on the molecular weight of the streams. This is called "fractionation." (Jessup, Tr. 1469-1470). These streams are either blended directly into gasoline, or modified so that the streams are suitable for gasoline blending. Blending is the final process by which these streams are combined to create gasoline. (Jessup, Tr. 1470).

1. **Reformulated Gasoline.**

- a. **What Is Reformulated Gasoline?**

193. Reformulated gasoline is "cleaner burning gasoline that pollutes less." (RX 116 at 001; RX 922 at 144-145). Motor vehicle fuel emissions are a significant source of carbon monoxide ("CO"), volatile organic compounds ("VOC"), and oxides of nitrogen ("NOx"). The latter two pollutants are precursors to ozone formation. (CX 5 at 007).
194. Members of the petroleum industry were among the leaders in developing reformulated gasoline, at least in part because these petroleum industry participants did not want alternative products, such as methanol, mandated for use in automobiles. (Venturini, Tr. 128; CX 1021 at 019).

- b. **How Can Reformulated Gasoline Reduce Pollution?**

195. By the late 1980s and early 1990s regulators, oil industry members and scientists realized that, by regulating the various properties of the gasoline, one could limit the amount of harmful emissions that were produced. (RX 922 at 144-145).
196. One property that is regulated for pollution control purposes is the volatility of the gasoline, or how easily it burns. (CX 5 at 019-021). Volatility is measured by Reid Vapor Pressure ("RVP") and expressed in pounds per square inch (or "psi"). (CX 2149). Generally, a lower RVP indicates better emissions. (CX 5 at 019-021).

as to what properties of gasoline to vary and what compositions to make that to have a fuel with lower emissions. (Jessup, Tr. 1155).

497. In the fall of 1989, Dr. Jessup and Dr. Croudace proposed to their management, including Dr. Alley and Dr. Miller, a research program to measure the effects of gasoline compositions and properties on automotive engine emissions. (CX 142 at 001-002, 007).
498. Drs. Jessup and Croudace in late 1989 sought to figure out how to change gasoline properties to minimize three major categories of automotive engine emissions: carbon monoxide (CO), nitrogen oxide (NOx) and unburned hydrocarbons (HC). (CX 142 at 003, 009). They knew that this research, if successful, could be used to make reduced-emissions reformulated gasoline. (CX 142 at 003-004).
499. Dr. Jessup and Dr. Croudace designed a study to independently isolate the effects of ten gasoline properties and components on these three categories of emissions (CO, NOx, and HC). (CX 142 at 004; CX 186 at 002-005).
500. The ten properties that Unocal's scientists chose to study were the T10 distillation point, T50 distillation point, T90 distillation point, Reid Vapor Pressure, paraffin content, olefin content, aromatics content, MTBE (oxygen) content, Research Octane Number, and Motor Octane Number. (CX 142 at 004; CX 186 at 002-005).
501. The distillation points of gasoline (T10, T50, T90) are the temperatures at which a specified volume of gasoline evaporates. T10 is the temperature at which ten percent of the gasoline will evaporate, T50 the temperature at which 50% will evaporate, and T90 the temperature at which 90% will evaporate. (CX 1709 at 013; CX 617 at 021, col. 18, ll. 29-35 ('393 patent); CX 186 at 009).
502. Reid Vapor Pressure (RVP) refers to the volatility of gasoline (the partial pressure of gasoline when heated to 100° F in a sealed container). (CX 617 at 021, col. 18, ll. 43-54 ('393 patent)).
503. Olefins, paraffins and aromatics are the three hydrocarbon components of gasoline, and are typically measured by their percentage volume. (CX 1709 at 003-004; Wirzbicki, Tr. 964, 1085-1086).
504. Octane is a traditional engine performance specification that measures gasoline's ability to resist auto-ignition or "engine knock" in use. (CX 1709 at 012).
505. Research Octane Number (RON) and Motor Octane Number (MON) are two different components of octane measurements. (CX 1709 at 012-013).
506. MTBE is a component that adds oxygen content to gasolines. (CX 142 at 005; CX 1709

