

# Implications of Unocal's Gasoline Patents

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Stillwater Associates LLC

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# Agenda

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- ◆ Key dates
- ◆ What is the patent?
- ◆ What is the lawsuit about?
- ◆ What about solutions to the patent issue?
- ◆ What is the likely impact on your company?

# Key Dates

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- ◆ First patent filed in December 1990
  - CARB's regs finalized in mid '91
- ◆ Patent issued by the patent office on 2/24/94
- ◆ Announced by Unocal in January '95
- ◆ Arco, Chevron, Exxon, Mobil, Shell, and Texaco filed suit in April '95
- ◆ The jury upheld the patent in Oct '97
- ◆ First appeal upheld the jury verdict in March '00

# Corporate Strategy

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- ◆ Dr. Jessup convinced management to go for the patent in the late '80's
- ◆ Unocal participated in the California and AutoOil RFG committees
- ◆ Dedicated significant legal resources to the patent

# What Is the Patent?

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- ◆ Five patents, filed over 5+ years
- ◆ '393 patent was the original - 41 formulations
  - Object of the lawsuit between Unocal and the refiners
- ◆ '567 patent, filed 3/22/95, issued 1/14/97
  - 40 formulations
- ◆ '866 patent, filed 6/5/95, issued 8/5/97
  - 58 formulations
- ◆ '126 tightened up the blendaround space
- ◆ '521 patents – includes formulas for calculating NO<sub>x</sub>, CO, HC

# Patent Claims

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- ◆ Individual claims include combinations of 3 to 7 of the following chemical or physical properties:
  - RVP (below 7.5 psi, summer specs)
  - T10/T50/T90
  - Octane
  - Olefins
  - Paraffins
  - Aromatics

# Key Formulas

Patent - Claim	Paraffins, Vol %	Distillation Deg F			Olefins Vol %	RVP psi	Octane	Aromatics Vol %
		T10	T50	T90				
393 - 71			≤205		<10	≤7.0	≥92	
393 - 78			≤210		<6	≤7.0	≥92	
393 -112	>75		≤210		<10	≤7.0		
567 - 1	>65	≤158	<203	<300	<8	<7.5	≥87	
567 - 6	>72	≤158	<208	<315	<8	<7.5	≥87	
866 - 4		≤158	<210		<10	<7.5	≥87	
126 - 50	>65	≤158	≤215	≤315	<8	<7.5	≥87	≥4.5
521 - 1	>65	≤158	≤215	≤315	<15	<7.5	≥87	

# What's a Paraffin?

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- ◆ According to the court:
  - 100 minus volume % aromatics minus volume % olefins, by FIA
- ◆ Not 100 minus aromatics minus olefins minus MTBE
- ◆ Therefore, MTBE gets counted as a paraffin in judging infringement

# CARB Specifications

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<b>Specs</b>	<b>Paraf</b>	<b>T10</b>	<b>T50</b>	<b>T90</b>	<b>Olefins, Vol %</b>	<b>RVP, psi</b>	<b>Arom, Vol %</b>	<b>Sulfur, ppm</b>
<b>Flat</b>	n/a	n/a	≤210	≤300	<6	≤7.0	≤25	30
<b>Average</b>	n/a	n/a	≤200	≤290	<4	≤7.0	≤25	40
<b>Caps</b>		n/a	220	330	≤10	≤7.0	≤25	80

# The Jury's Findings

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- ◆ Upheld the patent
  - Unocal had “invented” cleaner burning gasoline before others
- ◆ Defendants had infringed on the patent
  - Royalties set at 5.75 cpg
  - 25% of the 20-30 cpg cost to outhaul non-conforming gaso & return spec CARB
  - (Royalty for non-California gasoline is an issue)

# Past Infringement – the defendants

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- ◆ March 1 - July 31, 1996
- ◆ 1.19 bgal, 29.1% of defendants' production
- ◆ 60% premium
  - Primarily due to distillation of '393-78
- ◆ 40% unleaded
  - “Paraffins” greater than 75%
- ◆ First bill will be \$68 million
- ◆ Total 2 year tab estimated at \$200 million

# Enforcement

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- ◆ According to the court, the '393 patent applies to gasoline:
  - Produced, made for sale, or sold
  - Covers the United States, not just California
- ◆ Enforcement is up to the patent holder
  - The defendants will be subpoenaed for blend records
  - Currently Unocal has asked the court to enforce at the refinery level

# Where Will the Patent Be Enforced?

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- ◆ Where will enforcement be?
  - At the refinery?
  - In the pipeline?
  - Service station?
- ◆ Who pays the money?
  - The refiner?
  - The shipper?
  - The service station owner?
- ◆ How is the decision made?

# Appeal Issues

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- ◆ Defendants were confident that the rulings will be overturned on appeal
- ◆ They maintain that the judge made substantive errors in decisions around prior art and test specifications
- ◆ Appeal decision was announced in March '00
  - Split decision, 2 - 1
- ◆ Two more appellate levels left
  - Full Circuit Court of Appeals
  - Supreme Court

# Blend Around

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- ◆ For the '393, make CARB unlead with paraffins <75% - not hard
- ◆ Blending premium with T50 greater than 210 F will be a challenge
- ◆ '866 patent is comprehensive, covers 87+
  - Blend T50 above 210
  - Distillation sampling issues - D86
- ◆ '126 patent covers most of the loopholes
- ◆ '521 patent nails CARB gasoline, RFG too?

# Additional Patents

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- ◆ Unocal's formulas are not CARB or RFG II gasoline - don't include sulfur, for example
- ◆ Expect that the defendants will obtain patents for additional formulations
  - Primary objective is to protect remaining blendaround space
  - Patents could be dedicated to the public, but keep flexibility to produce without paying patent royalties

# Risk Factors of Infringement

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- ◆ Court upheld the '393 patent
- ◆ Subsequent patents are children of '393
- ◆ Knowingly producing, offering for sale, or selling can be construed as “willful infringement”
  - The producer knows the patent is valid
- ◆ Subject to treble damages - 17.25 cpg!

# Strategic Alternatives

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- ◆ Ignore the patents
  - There is still a chance in court
- ◆ Negotiate a lower fee with Unocal
  - This could provide competitive advantage vs. Companies w/o a license
- ◆ Look for a political solution
  - California AG's friend-of-the-court brief is a new arena for public policy