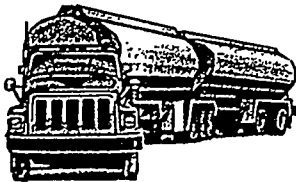


“EXPLORING LOW EMISSION DIESEL ENGINE OILS”

Scottsdale, AZ January 30 - February 1, 2000

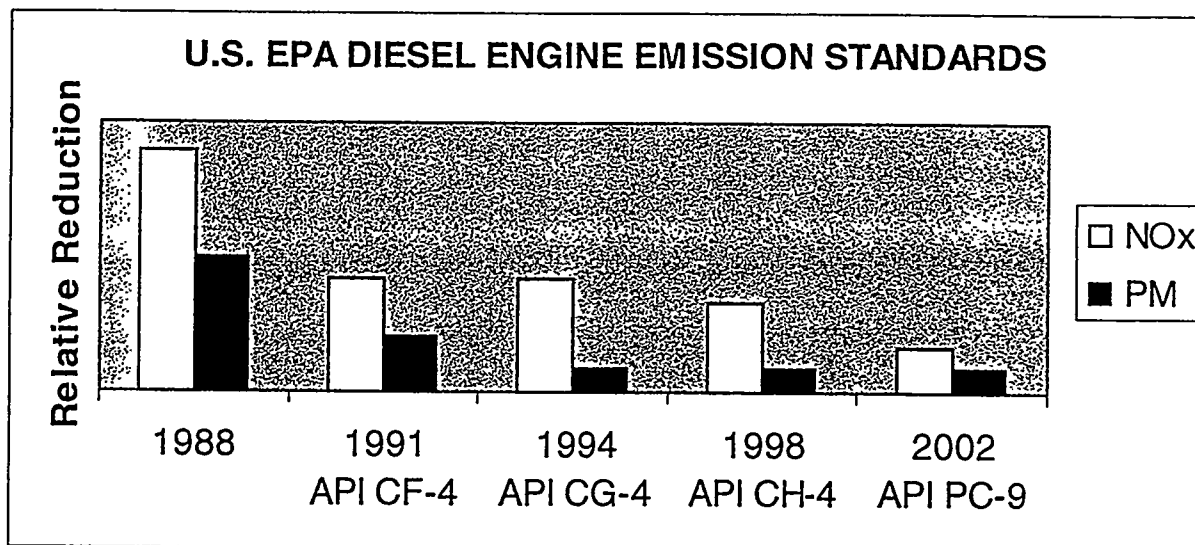
FUTURE API PC-9 ENGINE OIL CATEGORY



August (Augie) Birke

EQUILON
ENTERPRISES LLC

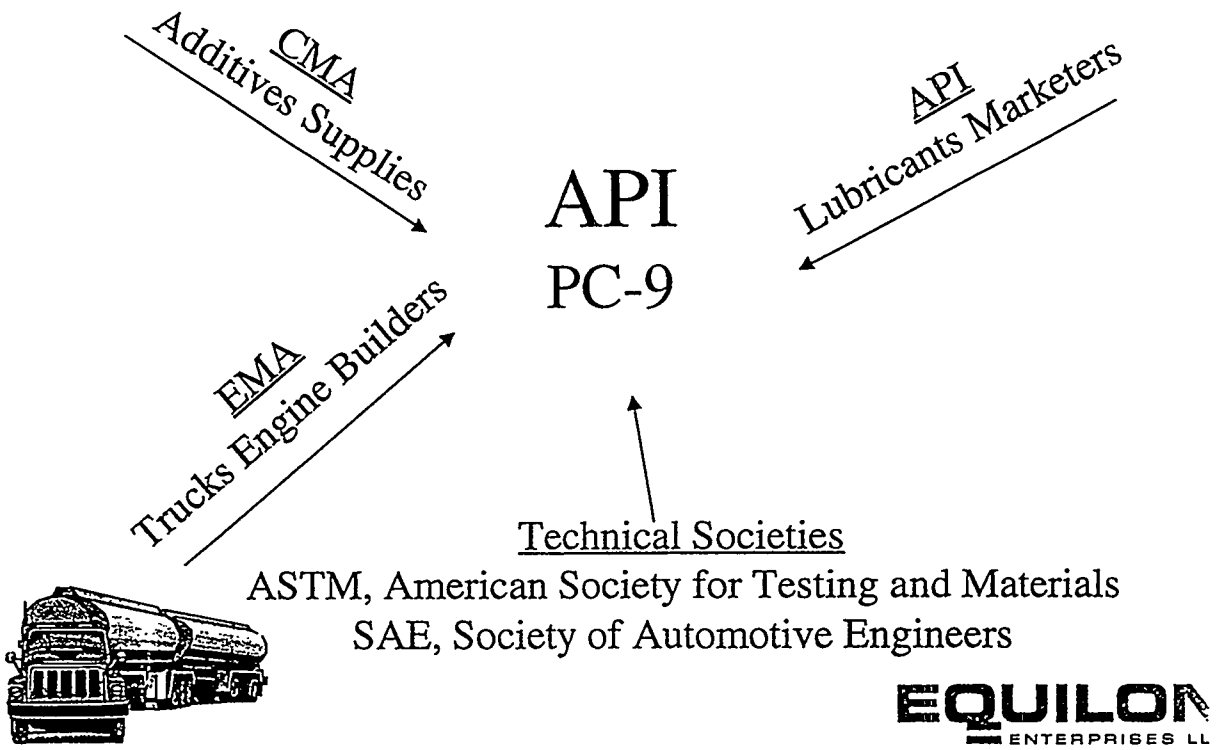
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ENTERPRISES LLC

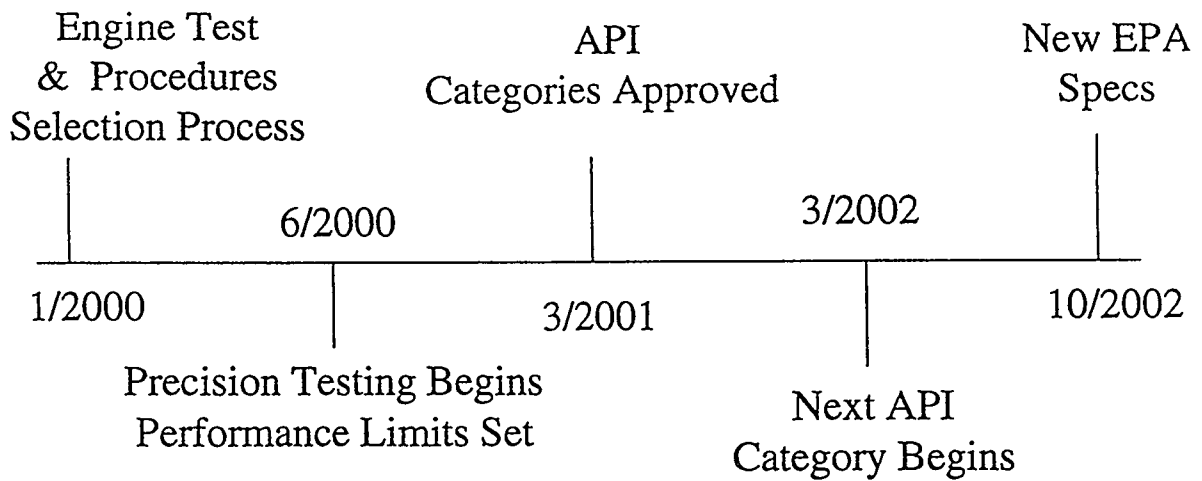
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Participants in the New Categories Development Process

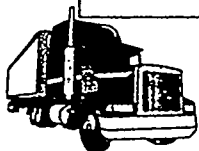


“EXPLORING LOW EMISSION DIESEL ENGINE OILS”

API PC-9 Development Time Table (Projected)



3/2002 First Marketing of Licensed Fluids Allowed
10/2002 EPA Mandated Date for Meeting New Emission Limits



“EXPLORING LOW EMISSION DIESEL ENGINE OILS”

Proposed API PC-9 Performance Parameters

Performance Parameter	EMA Proposed Test	Approximate Cost
Fe Piston Deposits, Oil Con.	Cat 1Q-EGR (1)	\$60,000.00
Al Piston Deposits	Cat 1N (2)	\$22,000.00
Ring/Liner Wear Brg. Corrosion	Mack T-10-EGR (3)	\$65,000.00
Soot Related VTWT	GM 6.5L (4)	\$12,000.00
Soot and EGR related VTWT	Cummins m11-EGR (5)	\$85,000.00
Thermal Oxidation	Deere JDQ (6)	\$60,000.00
Oil Aeration	Navistar 7.3L (7)	\$7,000.00
Soot Related Viscometrics	Mack T-8E (8)	\$44,000.00
Used Oil (Low Temp) Vis.	Based on T-8E?	5,000 +
High Temp. Corrosion Bench	CH-4 Bench Test (HTCBT)	
Shear Stability	CH-4 Bench Test (Bosch)	
Volatility	Bench Test (NOACK)	
Foaming	CH-4 Bench Test (D892)	
HTHS Viscosity Min	CH-4 Bench Test	
Seal Compatibility	Bench -D471 Based	
	Approximate Total	360,000 +
(X) New Engine Test	(X) Current Engine Test	

