Ethos

Shift into GREEN!

Increase Miles Per Gallon 7 to 19%
Reduce Emissions 30% - or MORE

Reduce Fuel Costs 7 - 19%

Ethos FR+ lubricates, cools, cleans and protects your engine - for longer life, improved horsepower and increased mileage.

When used in conjunction with **Ethos FR Oil Treatment** in your motor oil, the ester molecules penetrate and condition the metal quickly to clean and lubricate your engine.

Ethos FR Oil Treatment is a super lubricating agent and may be used in hydraulics and power steering, virtually anywhere a vehicle or engine needs lubricity.

Ethos FR+ is recommended for use at 1 fluid ounce of Ethos FR+ per 7.5 gallons of fuel. Ethos FR Oil Treatment is recommended for use at 1 fluid ounce per 1 quart of oil.

- **Save dollars per fill-up**
- Increase MPG's
- **Decrease emissions**
- **Extends life of oil**
- **Restores horsepower**
- Reduces engine temperature
- **Replaces the need for high octane**
- Reduces maintenance costs
- Bio-degradable, eco-friendly
- **Works in all fuel types**
- Works in all internal combustion engines, including cars, trucks, buses, RV's, boats, lawn mowers, generators...

EthosFR+ has been thoroughly tested both in the lab on sophisticated test rigs with dynamometers and in real world, over-the-road long haul trucks.

Road Tested

Satisfied clients include:

ALLIED WASTE SERVICES:

Publicly traded Allied Waste Services has dramatically **decreased its San Diego county fleet emissions by 71 percent.**

The fleet average opacity emission testing in 2007, was 6.32% compared with 21.6% in 2001, an impressive reduction in particulate matter.

Allied has **reduced atmosphere particulates from its Chula Vista fleet alone by more than 500 tons a year.**

As a result Allied Waste **received an Earth Day Corporate Award from the City of San Diego.**

The reduction in emissions was caused by more efficient burning of fuel, saving the South Western division on average over 1 million dollars in each of the past 8 years.

Statistical data provided by Allied Waste attached.

Lab Tested

Independent certified results:

CALIFORNIA ENVIRONMENTAL ENGINEERING, LLC:

Testing has been conducted by an **Environmental Protection Agency (EPA) recognized** and California Air Resources Board (CARB) certified testing lab, California Environmental Engineering, LLC, in Santa Ana, CA.

“Ethos showed significant improvement in lowering the tailpipe emissions and improving fuel economy" and "Nothing we have tested so far is quite as dramatic as the reductions we got with the Ethos product. We were surprised at that... **there's no question that it was more dramatic than others we've tested.** If all cars were equipped with Ethos there's no question it would be much better for the environment." - **Joe Jones, Director CARB certified CEE Labs**

The latest over-the-road long haul trucking test results taken at the 25,000 mile mark in ongoing testing show diesel fuel economy increase now up to 15.5%, with **opacity emissions now reduced to virtually zero.**

The Ethos FR+ System performs as well or better in gasoline engines.

HERGUTH LABS:

Herguth labs, an **EPA registered laboratory, confirms that Ethos FR is 99.99976% clean upon ignition and ashless upon combustion.**

FERIC: An internationally recognized, non-profit, research and development organization, verified with an **SAE-Based Test Protocol** (J1321 specification) that Ethos FR increases fuel efficiency and significantly reduces emissions.

When compared to a control vehicle following the rigorous testing protocol, the results concluded that Ethos FR successfully improved fuel efficiency and reduced harmful diesel emissions, as measured in opacity. In fact, **the Ethos-treated engine reduced emissions by 29.1%** when compared to the baseline test. **The test results verify that the Ethos-treated engine reduced fuel consumption.**

EPA APPROVED LAB TESTING/ASTM PROCEDURES:

A test performed in October 2008 according to the listed ASTM (American Society of Testing & Materials), procedures with no modifications or deviations, confirmed that Ethos FR increases lubricity in engine oil." "Ethos FR increases lubricity in engine oil by 10% thereby **allowing engines to run cooler and reduce friction, resulting in greater engine life."**

SOUTHWEST RESEARCH INSTITUTE: Test results attached.

In March 2008, Louis Meyer III, the **Technical Director for the Indy Racing League and the Firestone Indy Lights Series**, oversaw testing of Ethos FR®. This testing indicated that the product is successful in generating quicker lap times, lower water and oil temperature readings, a drop in emissions, and an improvement in power & fuel efficiency.

Regulatory Status: Ethos FR® is registered with the Environmental Protection Agency for use in gas and diesel fuels. In 2008, Ethos FR successfully demonstrated compliance with the SAE's J1321 specifications.

The **Magnuson-Moss Warranty Act** that was enacted by congress in 1975 states that an engine or vehicles manufacturer's warranty CANNOT be voided by the consumer who chooses to use an additive. This is a federal statute that governs warranties on consumer products and that includes all vehicles, engines and equipment. Again, **Ethos FR will NOT null or void your vehicle warranty**.

Liability: Ethos Environmental, Inc. the manufacturer of Ethos FR carries substantial liability coverage. There has not been any challenges in 10 years on the use of the product which is non-toxic, non-flammable (non petroleum based) and biodegradable.

The Ethos system of products are manufactured in San Diego, CA by Ethos Environmental, INC.

The 70,000 square foot, state of the art, environmentally friendly blending facility has the capacity to produce 55 gallon drums as well as over 16 million bottles of Ethos FR+ and Ethos FR Oil Treatment per year.

Specifications:

Ethos FR Oil Treatment is a unique combination of high-quality, non-toxic, specially designed esters that uses only the elements of carbon, hydrogen and oxygen. Ethos FR+ consists of Ethos FR Oil Treatment, with one additional plant based ingredient.

This combination of low molecular cleaning esters and the high molecular lubricating esters, reformulates any fuel whether it's gasoline, diesel, methanol, ethanol, LNG, compressed natural gas or bio-diesel.

When blended with fuels, Ethos FR reduces the emissions of hydrocarbons (HC), nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM) and other harmful products of combustion.

Ethos FR is free of carcinogens.

Ethos FR+ is a light colored, multi-functional fuel reformulator. It is designed for use in all fuels to increase power and mileage, dissolve gums and varnishes, lubricate upper cylinder components and keep the entire fuel system clean and highly lubricated.

Esters: In the simplest terms, esters can be defined as the reaction products of acids and alcohols. Thousands of different kinds of esters are commercially produced for a broad range of applications. Within the realm of synthetic lubrication, a relatively small substantial family of esters have been found to be very useful in severe environment applications

Esters have been used successfully in lubrication for more than 50 years and are the preferred stock in many severe applications where their benefits solve problems or bring value. For example, esters have been used exclusively in jet engine lubricants worldwide for over 40 years due to their unique combination of low temperature flowability

with clean high temperature operation. Esters are also the preferred stock in the new synthetic refrigeration lubricants used with CFC replacement refrigerants. Here the combination of branching and polarity make the esters miscible with the HFC refrigerants and improves both low and high temperature performance characteristics. In automotive applications, the first qualified synthetic crankcase motor oils were based entirely on esters and these products were quite successful when properly formulated. Esters have given way to Polyalphaolefins (PAOs) in this application due to PAOs lower cost and their formulating similarities to mineral oil. Nevertheless, way are nearly always used in combination with PAOs in full synthetic motor oils in order to balance the effect on seals, solubilize additives, reduce volatility, and improve energy efficiency through higher lubricity. The percentage of ester used in motor oils can vary anywhere from 5 to 25% depending upon the desired properties and the type of ester employed

Esters lubricants have already captured certain niches in the industrial market such as reciprocating air compressors and high temperature industrial oven chain lubricants. When one focuses on high temperature extremes and their telltale signs such as smoking, wear, and deposits, the potential applications for the problem solving ester lubricants are virtually endless. In many ways esters are very similar to the more commonly known and used synthetic hydrocarbons or PAOs. Like PAOs, esters are synthesized form relatively pure and simple starting materials to produce predetermined molecular structures designed specifically for high performance lubrication. Both types of synthetic base stocks are primarily branched hydrocarbons which are thermally and oxidatively stable, have high viscosity indices, and lack the undesirable and unstable impurities found in conventional petroleum based oils. The primary structural difference between esters and PAOs is the presence of multiple ester linkages (COOR) in esters which impart polarity to the molecules. This polarity affects the way esters behave as lubricants in the following ways:

Volatility: The polarity of the ester molecules causes them to be attracted to one another and this intermolecular attraction requires

more energy (heat) for the esters to transfer from a liquid to a gaseous state. Therefore, at a given molecular weight or viscosity, the esters will exhibit a lower vapor pressure which translates into a higher flash point and a lower rate of evaporation for the lubricant. Generally speaking, the more ester linkages in a specific ester the higher its flash point and the lower its volatility.

Lubricity: Polarity also causes the ester molecules to be attracted to positively charged metal surfaces. As a result, the molecules tend to line up on the metal surface creating a film which requires additional energy (load) to penetrate. The result is a stronger film which translates into higher lubricity and lower energy consumption on lubricant applications.

Detergency/Dispersency: The polar nature of esters also makes them good solvents and dispersants. This allows the esters to solubilize or disperse oil degradation by-products which might otherwise be deposited as varnish or sludge, and translates into cleaner operation and improved additive solubility in the final lubricant.

Biodegradability: While stable against oxidative and thermal breakdown, the ester linkage provides a vulnerable site for microbes to begin their work of biodegrading the ester molecule. This translates into very high biodegradability rates for ester lubricants and allows more environmentally friendly products to be formulated

Ethos FR – Proof of Performance

An integral part of our sales process is to conduct proof of performance demonstrations for potential customers wherein we accumulate historical data that documents the effects of the use of Ethos FR® (i.e. advantages in terms of increased fuel economy, a decrease in engine wear and reductions in toxic emissions) on that customer's specific vehicles or vessels. In connection with the proof of performance demonstrations, we provide fleet monitoring services

and forecasts of fuel consumption for purposes of the prospective customer's own analysis.

The results below are test results of customer experiences using Ethos FR®. The results are for a fleet of trucks for Allied Waste.

Following is a Management Report outlining the process and methodology of the testing of Ethos FR® for Allied Waste Services:

MANAGEMENT REPORT

Testing of Ethos Fuel Reformulator
Allied Waste Services, Southwestern Region

Overview

Ethos FR has been used, without interruption, at multiple Allied Waste locations in Southern California since the year 2001.

Based on the positive results realized at those locations (estimated at a 10% reduction in fuel consumption plus significant reductions in maintenance/repair costs and emissions) an initial test was conducted at one location in the Southwestern Region of Allied Waste during the months of July and August, 2006. The results of this initial 4 week test showed an estimated reduction in fuel consumption of 10.35%, as measured by gallons per engine hour, compared to a baseline period of the previous 12 months (July 2005 through June 2006).

Based on these positive results, a second phase of testing was initiated in May 2007 encompassing 4 locations in the Southwestern Region. The period of testing was generally the months of May, June and July 2007, however, one location continued Ethos use through August. The detailed data obtained from this testing period is content of this report.

Testing Procedures and Data Compilation & Reporting Methodology

Upon initiation of the testing period, fuel consumption and engine hour data was obtained from each location for a baseline period in order to establish a point of comparison for the test. The baseline period for each location was generally the period of January through March, 2007.

The standard CFA report obtained from each location was the "Fuel Transaction Detail by Equipment #" report. This report provides the most comprehensive daily listing of fuel dispensed and engine hours recorded for each vehicle during each time period. It is important to note that detailed reports were used throughout the compilation of the data contained in this analysis because every report from every location contains several "anomalies" which could distort the accuracy of any data from any report.

Most common among these "anomalies" are:

1. Vehicles showing fuel consumed but few or no engine hours recorded (which would result in a higher fuel per hour calculation than is actually the case),

2. Vehicles showing no fuel consumed yet have engine hours recorded (which would result in a lower fuel per hour calculation than is actually the case), or

3. Vehicles that do not have recorded data for both comparative periods. This would include:

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new vehicles that have been added to the fleet (and therefore have no baseline data)

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vehicles that have been retired from the fleet or are out of service for repairs or maintenance (these vehicles will have baseline data but no data in one or more of the test periods).

Raw Data vs. Comparable Data

Due to the frequency and significance of the anomalies outlined above, a detailed process was implemented to ensure that any such reporting inaccuracies did not undermine the validity of the comparative data obtained during this test.

The procedures utilized by Green Fleet Associates were as follows:

1.) Every CFA report that was obtained from every location for every time period as reviewed line-by-line, vehicle-by-vehicle to assure the validity of the data. Any obvious anomalies were highlighted on the raw CFA report.

2.) This raw data from the CFA report was transferred to a spreadsheet in order to facilitate ongoing side-by-side, vehicle-by-vehicle comparisons of baseline to test period data. Any anomalies or missing data for any vehicle was highlighted on the spreadsheet for reach comparative period.

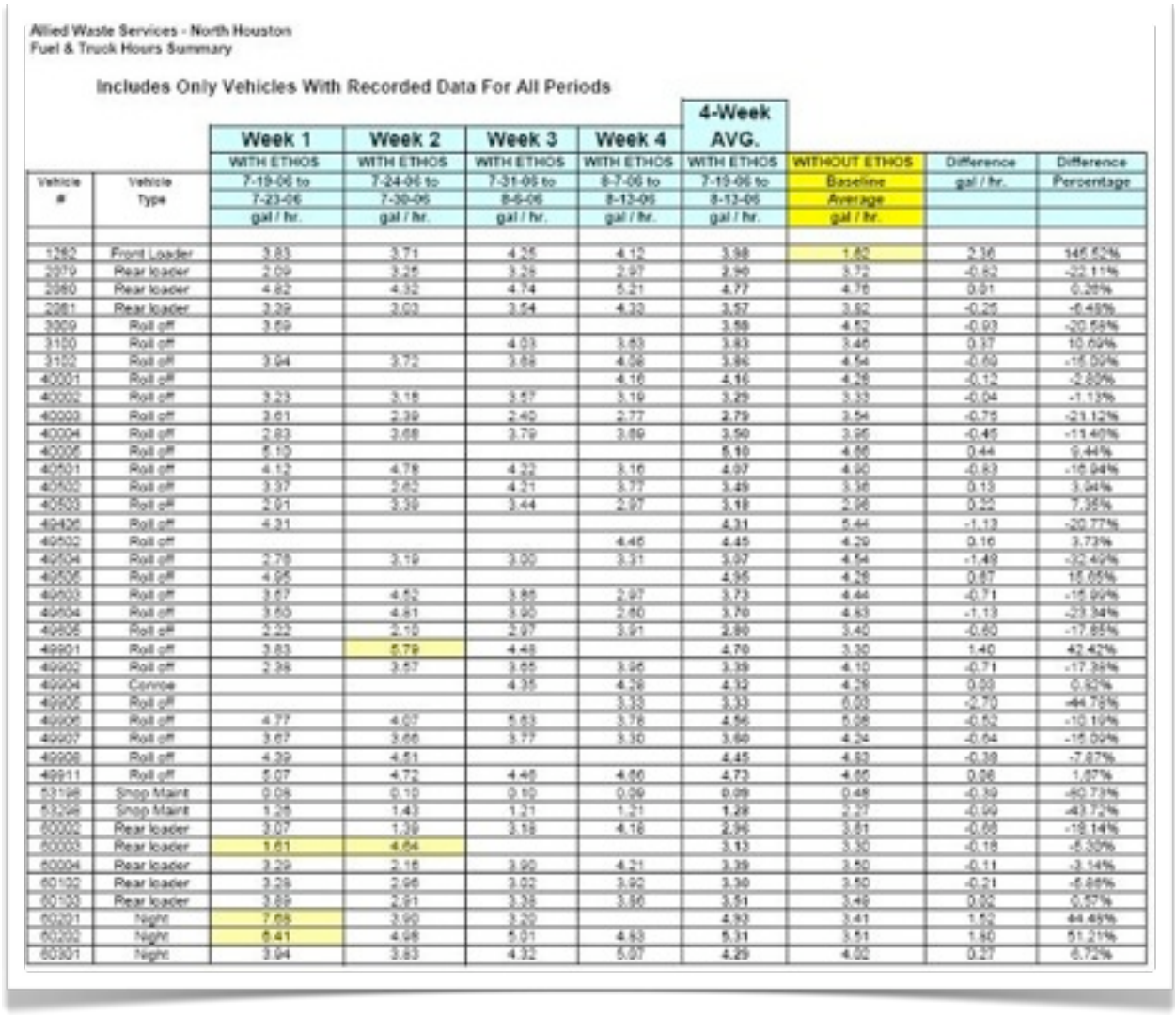
3.) A true “apples-to-apples” comparison was obtained for each time period by removing all highlighted items.

Verification of Ethos Use

Equally important in assuring the validity of the data collected was making best efforts to verify that all of the fuel being consumed by each location during the testing period was being treated with Ethos. The method utilized to check this compliance was a detailed tracking of fuel deliveries compared the Ethos inventory at each location during the testing period. While almost all locations maintained a

consistent treatment schedule throughout the three month testing period, there were some minor exceptions.

The spreadsheets detailing the baseline & test period data, for each month at each location are as follows:



Allied Waste Services - North Houston
Fuel & Truck Hours Summary

Includes Only Vehicles With Recorded Data For All Periods

Vehicle #	Vehicle Type	Week 1 WITH ETHOS 7-19-06 to 7-23-06 gal / hr.	Week 2 WITH ETHOS 7-24-06 to 7-30-06 gal / hr.	Week 3 WITH ETHOS 7-31-06 to 8-6-06 gal / hr.	Week 4 WITH ETHOS 8-7-06 to 8-13-06 gal / hr.	4-Week AVG. WITH ETHOS 7-19-06 to 8-13-06 gal / hr.	WITHOUT ETHOS Baseline Average gal / hr.	Difference gal / hr.	Difference Percentage
1282	Front Loader	3.83	3.71	4.26	4.12	3.98	1.62	2.36	146.62%
2079	Rear loader	2.09	3.25	3.26	2.97	2.90	3.72	-0.82	-22.11%
2080	Rear loader	4.82	4.32	4.74	5.21	4.77	4.76	0.01	0.26%
2081	Rear loader	3.29	3.03	3.54	4.10	3.57	3.82	-0.25	-6.48%
3009	Roll off	3.69				3.68	4.62	-0.93	-20.68%
3100	Roll off			4.03	3.83	3.93	3.46	0.37	10.69%
3102	Roll off	3.94	3.72	3.68	4.08	3.86	4.54	-0.69	-15.09%
40001	Roll off				4.16	4.16	4.28	-0.12	-2.80%
40002	Roll off	3.23	3.18	3.57	3.19	3.29	3.33	-0.04	-1.13%
40003	Roll off	3.61	2.39	2.40	2.77	2.79	3.54	-0.75	-21.12%
40004	Roll off	2.83	3.68	3.79	3.89	3.50	3.95	-0.45	-11.40%
40005	Roll off	5.10				5.10	4.66	0.44	9.44%
40501	Roll off	4.12	4.78	4.22	3.16	4.07	4.90	-0.83	-16.94%
40502	Roll off	3.37	2.62	4.21	3.77	3.49	3.36	0.13	3.94%
40503	Roll off	2.91	3.39	3.44	2.97	3.18	2.96	0.22	7.35%
49426	Roll off	4.31				4.31	5.44	-1.13	-20.77%
49502	Roll off				4.46	4.45	4.29	0.16	3.73%
49504	Roll off	2.78	3.19	3.00	3.31	3.07	4.54	-1.49	-32.49%
49506	Roll off	4.95				4.95	4.28	0.67	15.65%
49603	Roll off	3.67	4.62	3.85	2.97	3.73	4.44	-0.71	-15.99%
49604	Roll off	3.60	4.61	3.90	2.60	3.70	4.83	-1.13	-23.34%
49606	Roll off	2.22	2.10	2.97	3.91	2.80	3.40	-0.60	-17.65%
49901	Roll off	3.83	5.79	4.48		4.70	3.30	1.40	42.42%
49902	Roll off	2.36	3.57	3.65	3.96	3.39	4.10	-0.71	-17.39%
49904	Conroe			4.35	4.29	4.32	4.29	0.03	0.82%
49905	Roll off				3.33	3.33	6.03	-2.70	-44.79%
49906	Roll off	4.77	4.07	5.63	3.76	4.56	5.08	-0.52	-10.19%
49907	Roll off	3.67	3.66	3.77	3.30	3.60	4.24	-0.64	-15.09%
49908	Roll off	4.39	4.51			4.45	4.83	-0.39	-7.87%
49911	Roll off	5.07	4.72	4.46	4.66	4.73	4.66	0.06	1.67%
53198	Shop Maint	0.06	0.10	0.10	0.09	0.09	0.48	-0.39	-80.73%
53298	Shop Maint	1.26	1.43	1.21	1.21	1.28	2.27	-0.99	-43.72%
60002	Rear loader	3.07	1.39	3.18	4.16	2.96	3.61	-0.65	-18.14%
60003	Rear loader	1.61	4.64			3.13	3.30	-0.18	-5.39%
60004	Rear loader	3.29	2.16	3.90	4.21	3.39	3.50	-0.11	-3.14%
60102	Rear loader	3.28	2.96	3.02	3.90	3.30	3.50	-0.21	-5.88%
60103	Rear loader	3.89	2.91	3.36	3.56	3.51	3.49	0.02	0.57%
60201	Night	7.66	3.90	3.20		4.93	3.41	1.52	44.49%
60202	Night	6.41	4.98	5.01	4.53	5.31	3.51	1.80	51.21%
60301	Night	3.94	3.83	4.32	5.07	4.29	4.02	0.27	6.72%

Vehicle #	Vehicle Type	WITH ETHOS 7-19-06 to 7-23-06 gal / hr.	WITH ETHOS 7-24-06 to 7-30-06 gal / hr.	WITH ETHOS 7-31-06 to 8-6-06 gal / hr.	WITH ETHOS 8-7-06 to 8-13-06 gal / hr.	WITH ETHOS 7-19-06 to 8-13-06 gal / hr.	WITHOUT ETHOS Baseline Average gal / hr.	Difference gal / hr.	Difference Percentage
60303	Night	4.25	4.66	3.12	4.36	4.07	4.80	-0.73	-15.21%
60304	Night	5.12	4.28	4.39	4.91	4.67	4.96	-0.29	-5.85%
60402	Rear loader				3.69	3.69	6.71	-3.02	-45.01%
60404	Rear loader		3.08	2.16	0.56	1.93	3.54	-1.61	-45.39%
60306	Rear loader	3.99				3.99	5.12	-1.13	-22.07%
60506	Rear loader	2.11	2.91	2.23	1.60	2.26	3.29	-1.03	-31.23%
60507	Rear loader	2.89				2.89	3.46	-0.57	-16.47%
60509	Rear loader			2.31	2.58	2.45	3.81	-1.37	-35.83%
60512	Rear loader			2.21	2.20	2.22	4.33	-2.11	-48.73%
60515	Rear loader	2.15				2.15	3.03	-0.88	-29.04%
60516	Rear loader	3.18	3.74	2.84	3.36	3.28	3.49	-0.21	-6.02%
60513	Rear loader	3.44	3.91	3.65	3.54	3.64	3.97	-0.34	-8.44%
60519	Rear loader			2.99	2.80	2.99	3.56	-0.57	-16.09%
60902	Rear loader	6.80	1.71	3.53		3.68	2.63	1.05	39.93%
60903	Rear loader	3.15	4.33	3.66	5.54	4.20	3.98	0.22	5.26%
60905	Night	2.80	2.67	2.43	15.78	5.92	2.48	3.44	138.71%
60901	Night	2.76				2.76	4.31	-1.55	-35.96%
60902	Rear loader	2.67	4.03	4.30	5.26	4.07	4.53	-0.47	-10.26%
90001	Front Loader	2.75	2.91	2.82	3.13	2.93	3.36	-0.43	-12.87%
90003	Front Loader	4.79	4.44	4.57	3.62	4.35	4.43	-0.08	-1.75%
90005	Front Loader	3.85	2.98	4.10	4.90	3.96	4.44	-0.48	-10.97%
90006	Front Loader	4.86	2.56	3.64		3.69	3.92	-0.23	-5.95%
90007	Front Loader	4.35	3.30	4.22	6.20	4.52	4.89	-0.37	-7.62%
90008	Front Loader	4.36	4.27	4.33	4.50	4.37	4.91	-0.55	-11.10%
90101	Front Loader	3.85	3.98	3.78	3.62	3.81	4.39	-0.58	-13.27%
90102	Front Loader	3.32	3.76	3.97	3.34	3.45	4.03	-0.58	-14.45%
90104	Front Loader	3.71	4.18	4.03	3.81	3.93	4.12	-0.19	-4.65%
90105	Front Loader	7.61	4.60	4.24	4.70	5.29	4.95	0.34	6.82%
90106	Front Loader			2.45	3.07	2.76	3.43	-0.67	-19.53%
90201	Front Loader	4.58	3.81	4.14	3.59	4.03	4.23	-0.21	-4.85%
90202	Front Loader	3.99	3.92			3.96	4.23	-0.28	-6.50%
90401	Front Loader	6.02	6.69	6.42	6.57	6.42	6.82	-0.40	-5.83%
90402	Front Loader	3.98	4.15	4.53	4.61	4.29	4.74	-0.45	-9.55%
90403	Front Loader	4.93	4.97	4.95	5.44	5.07	5.41	-0.34	-6.24%
90404	Front Loader	8.65	5.15	4.76	3.62	5.55	6.06	-0.51	-8.50%
90405	Front Loader	3.89	3.81	4.25	3.99	3.91	4.90	-0.99	-20.30%
99501	Front Loader	3.69	3.95	2.10	4.30	3.51	6.82	-3.31	-48.63%
99503	Front Loader	4.74	4.00	4.81	4.10	4.41	4.75	-0.34	-7.11%
99702	Front Loader	3.05	3.71	4.05	3.82	3.66	3.75	-0.09	-2.47%
99704	Front Loader	4.38	4.48	4.36	5.60	4.71	4.38	0.33	7.53%
99801	Front Loader	4.80	3.68	4.37	4.61	4.37	5.30	-0.94	-17.64%
99802	Front Loader	2.99	3.05	3.22	3.21	3.12	3.79	-0.67	-17.74%
99806	Front Loader	4.00	4.69	3.72	4.96	4.35	5.15	-0.80	-15.59%
99901	Front Loader	1.70	3.30	3.94	4.22	3.29	8.00	-4.71	-58.88%
FLEET TOTALS		279.56	242.83	269.53	275.94	316.75	353.34		
		With Ethos	With Ethos	With Ethos	With Ethos	With Ethos	Without Ethos	With Ethos	With Ethos
		(73 Vehicles)	(65 Vehicles)	(73 Vehicles)	(69 Vehicles)	(84 Vehicles)	(84 Vehicles)	(84 Vehicles)	(84 Vehicles)
FLEET AVERAGE		3.83	3.68	3.69	4.00	3.77	4.21	-0.44	-10.35%

Ethos FR – Proof of Performance Demonstrations

Ethos Environmental uses an opacity meter, a detection device for diesel vehicles that measures the percentage of opacity (light obstructed from passage through an exhaust smoke plume), to demonstrate dramatic reductions in emissions. In more that 1,000 heavy-duty diesel vehicles treated (a motor vehicle having a manufacturer's maximum gross vehicle weight rating (GVWR) greater than 6,000 pounds), emissions were lowered by as much as 90%. The Society of Automotive Engineers (SAE) recommended practice SAE J1667 "Snap Acceleration Smoke Test Procedure" to be used for heavy-duty diesel powered vehicles. Attached are samples of opacity test sheets, taken from diesel-powered engines, demonstrating the positive results after using Ethos FR®.

Engine Type	Year	Miles Traveled For Test	Opacity Prior to Ethos	Opacity after Ethos	% Reduction Opacity	Historical Miles/Gallon	Miles/Gallon With Ethos	% Increase Miles/Gallon
CAT	99	2,204	50.8	29.20	43.0	4.85	6.93	43.0
CAT	98	1,868	4.00	1.50	63.0	5.73	8.77	53.0
Detroit Diesel	88	186	46.40	23.30	50.0	6.00	8.50	42.0
Detroit Diesel	84	212	12.10	1.20	91.0	6.40	10.10	58.0
CAT	97	206	20.80	7.80	63.0	3.00	5.70	90.0
GM6 9	99	205	4.70	.20	96.0	11.30	15.70	39.0

Ethos Environmental Establishes a Technical Advisory Board to Include Scientific and Industry Leaders With a Clean Energy Focus

To Be Headed by John D. Dunlap, III, **Former CARB Chairman** and Nationally Prominent Leader in Environmental Regulatory Advocacy and Compliance

(Marketwire - 07/29/09) - Ethos Environmental, Inc. (OTC.BB:ETEV - News), a San Diego-based company, is pleased to announce today the appointment of John D. Dunlap, III as the Chairman of its newly formed Technical Advisory Board. As former Chairman of the California Air Resources Board, John brings a wealth of experience as both a regulatory consultant and green technology expert that will aid Ethos in identifying opportunities for the development of even greener higher performing and lower-emitting product offerings. The Board, to be completed over time, will be composed of both scientific and industry leaders

Commenting on this exciting new addition to the Company, Corey P. Schlossmann, Ethos Environmental, Inc.'s CEO, stated, "With the importance placed on a cleaner environment and with an increased focus on engine emissions and other pollutants in an era of higher fuel costs, it is important for Ethos to have the necessary expertise guiding its strategic course in becoming a leader in providing ecofriendly solutions to the transportation arena. John Dunlap brings over 20 years of expertise to the Company in environmental advocacy and consulting. His leadership should provide the Company's Advisory Board with immediate leadership and brings to the Company his extensive knowledge of the complex framework of environmental regulations and laws both on the Federal and State level. The entire team at Ethos is excited to be working with John. We look forward to working closely with the Advisory Board to build our

Company, reach our milestones and achieve growth for our shareholders."

"The whole fuels arena, from fuels to fuel additives, is ripe for huge market opportunities as California and the US EPA continue to develop and implement tighter standards and require increased amounts of biofuels into the fuel stream. This is an exciting time to be in this business, and I look forward to working closely with Ethos," stated Mr. Dunlap.

John started his career in environmental advocacy and consulting in early 2004. His practice area has been focused on developing and implementing strategies for regulatory advocacy and compliance. Using sophisticated education and communication approaches aimed at changing/enhancing the development of environmental regulations already underway to assist his client base. John has extensive executive branch and Cal/EPA advocacy experience and has gained credibility through his service in several executive posts held at the California Air Resources Board, the South Coast AQMD and the California Department of Toxics Substances Control.

John has been very active in the development of advocacy programs representing priority industry sectors subject to the AB 32, California Global Warming Solutions Act of 2006. Since AB 32 was enacted, he has tracked virtually all technical and regulatory efforts surrounding the California GHG effort. He has advised the Governor's Office, State Legislative Leadership and CARB Chair and Executive staff on planning and resource issues regarding the successful implementation of the measure.

John also has a broad and extensive background in government service. In 2003, he was appointed by Governor Gray Davis to serve as Chairman of the State Compensation Insurance Fund (SCIF), California's largest provider of workers' compensation and as a member of the California Travel and Tourism Commission.

He also served five years in Governor Pete Wilson's Administration as Chairman of the Air Resources Board (CARB), where he was

responsible for implementation of the California and Federal Clean Air Acts. During his tenure, John led the implementation of fairminded and effective regulatory efforts in the automotive, fuels, consumer products and technology-forcing arenas, maintaining CARB's position as an innovative and world-leader in air pollution control.

From 1993 to 1994, he served Governor Wilson as Chief Deputy Director of the Department of Toxic Substances Control, where he managed external affairs, legislation, and technology development programs. Prior to his state service, John worked for the South Coast Air Quality Management District for over 11 years serving as Public Advisor.

Additionally, John has served as a Commissioner and Executive Committee member of the California Travel and Tourism Commission. John was involved in the planning and implementation of the state's marketing and advertising.

He completed his Ph.D. post-graduate work at Claremont Graduate University; M.P.P. Claremont Graduate University; B.A. University of Redlands.

Fuel Economy Increase and Tailpipe Emissions Decrease Proven by Independent Lab in Extensive Over-The-Road Testing

(Marketwire - 06/29/09) - Ethos Environmental, Inc. (OTC.BB:ETEV - News), a San Diego based company, today announced the Company's research division, Ethos Scientific LLC, has received confirmation of **positive Over-The-Road (OTR) test results verifying increases in fuel economy and reduction of tailpipe emissions**. The test results were obtained from the combined use of EthosFR+, a liquid fuel catalyst, in the test vehicle's fuel and EthosFR Oil Treatment in the vehicle's engine oil.

The OTR test was performed by the California Environmental Engineering (CEE) Laboratory, Center for Environmental Research in Santa Ana, California during May of 2009. A protocol similar to that prescribed for the Society of Automotive Engineers (SAE), J1321, was used. **CEE is Environmental Protection Agency (EPA) recognized and California Air Resources Board (CARB) certified**. The test was performed in cooperation with the research group of Rod's Trucking, located in Santa Fe Springs, CA.

The test data reveals a fuel economy improvement of up to 11.3% with a 'significant reduction in measurable opacity emissions.' The Executive Summary of the test with a complete description of the test vehicle and test conditions is attached.

"Just as with the Proof of Concept lab tests, the OTR tests serve to further substantiate the benefits of using Ethos FR+ in combination with EthosFR Oil Treatment," said Corey P. Schlossmann, Ethos Environmental, Inc.'s CEO. "These results are consistent with the many positive user/anecdotal results the Company has received over the past several months since the

release of EthosFR+. We're pleased to be able to release this confirming independent test from such a professionally respected source."

Continuing Fuel Economy Improvement Documented in Latest 25,000 Mile Mark Over-the-Road Testing

Opacity Emissions Now Reduced to Virtually Zero

(Marketwire - 08/06/09) - Ethos Environmental, Inc. (OTC.BB:ETEV - News), a San Diego based company, today announced the Company's research division, Ethos Scientific LLC, has received confirmation of continued improvements in fuel economy from the latest Over-The-Road (OTR) interim test results reported at the 25,000 mile mark from the start of the test on the test vehicle. The test results were obtained from the combined use of EthosFR+, a liquid fuel catalyst, in the test vehicle's fuel and EthosFR Oil Treatment in the vehicle's engine oil.

The original test results were reported on June 29th, 2009 at the 10,000 mile mark on the test vehicle.

The ongoing OTR testing is being performed by the California Environmental Engineering (CEE) Laboratory, Center for Environmental Research in Santa Ana, California. A protocol similar to that prescribed for the Society of Automotive Engineers (SAE), J1321, is being used. CEE is Environmental Protection Agency (EPA) recognized and California Air Resources Board (CARB) certified. The testing is being performed in cooperation with the research group of Rod's Trucking, located in Santa Fe Springs, CA.

This latest test data now reveals a substantial fuel economy improvement of up to 15% with opacity emissions now being reduced to virtually zero. The previous interim results as reported in the Company's June 29th, 2009 press release showed up to an 11.3% improvement in fuel economy.

The test vehicle is the same vehicle referenced in the June 29th, 2009 press release.

Ongoing fuel economy and opacity emissions testing on this vehicle will include Particulate Matter Density results in the next phase of testing.

"We're delighted to be able to substantively document and report that continued use of EthosFR+ and EthosFR results in increased improvements in fuel economy and further reductions in tailpipe emissions," said Corey P. Schlossmann, Ethos Environmental, Inc.'s CEO. "These newest test results confirm the steady stream of user/anecdotal results the Company continues to receive from its growing customer base."

Nationally Recognized, Independent Lab Tests Prove Toxic Emissions Reduced Using Improved EthosFR+

EPA Recognized and CARB Approved Lab Confirms Increased Horsepower, Improved Fuel Economy, and Significant Reduction in Harmful Emissions

(MARKET WIRE)--Apr 6, 2009 -- Ethos Environmental, Inc. (OTC BB:ETEV.OB - News), a San Diego-based company, is pleased to announce that, through Ethos Scientific LLC, the Company's research and development division, it has received positive Proof of Concept test results in reducing toxic tailpipe emissions when the company's new and improved flagship product, EthosFR+, a liquid fuel catalyst, is added to fuel.

The new and improved blend was tested by the California Environmental Engineering Laboratory, Center for Environmental Research in Santa Ana, California in March. The CEE is Environmental Protection Agency recognized and California Air Resources Board (CARB) certified.

The Company's new formula contains compounds not present in the original blend. Ethos' new Scientific Advisory Board recommended the addition of this proprietary ingredient to dramatically bolster the products' performance in gas and diesel engines.

The tests were run on a Cummins QSM-11 400 HP heavy duty diesel engine in accordance with Federal Regulations. The successful tests were conducted on a heavy duty engine dynamometer. Two tests were completed; one initially without the EthosFR+ fuel catalyst to establish a baseline average for tailpipe emissions, horsepower and fuel economy. The second test included the addition of EthosFR+ in the engine. The results of this test were compared to the baseline.

Analysis of the tests indicated a significant reduction of measured tailpipe emissions for Hydrocarbons, Carbon Monoxide, Nitrous Oxide, and Particulate Matter. A marked improvement in horsepower and fuel economy was also noted.

According to CEE Research Director Joe Jones, the results were "surprising" and Ethos FR+ outperformed other additives that the CEE has tested in the past. "The results using the Ethos product showed significant improvement in lowering the tailpipe emissions and improving fuel economy," Jones said.

"The test results from an EPA recognized and CARB certified laboratory verifies with a high level of confidence the validity of EthosFR+ and its high probability for continual improvement in engines with constant use," said Corey P. Schlossmann, Ethos Environmental, Inc.'s CEO. "As a result of the conclusive 'Proof of Concept' test, we are now beginning production of the new EthosFR+ for release into our expanding global distribution network."

Please find attached 2 'Proof of Concept' Executive Summaries provided by California Air Resources Board (CARB) certified and Environmental Protection Agency (EPA) recognized California Environmental Engineering (CEE).

2530 South Birch Street – Santa Ana, CA 92707

June 12, 2009

Ethos Environmental, Inc.
6800 Gateway Park Drive
San Diego, CA 92154

Re: **Ethos-FR Liquid Fuel Catalyst**

Executive Summary

Following a set of successful Proof-Of-Concept (POC) laboratory tests using the Etho's product, a series of "Over-The-Road" (OTR) tests using the Ethos fuel catalyst were accomplished during May-2009 using a protocol similar to those prescribed for the SAE J1321 fuel consumption test procedure. The tests were performed in cooperation with the research group of Rod's Trucking located in Santa Fe Springs, California and under the guidance of the California Environmental Engineering (CEE) Center for Environmental Research. The test protocol included using a 1999 Freightliner FLD Three Axel Tractor with a Detroit Diesel 430 Diesel Engine. The well maintained representative test vehicle had an accumulated mileage in excess of 700,000 miles.

The test protocol used was in accordance with the procedures defined for Over-The-Road testing variables using an ECOM 5-gas analyzer to accurately measure tailpipe emissions and fuel economy. A series of six (6) tests covering over 10,000 – actual miles were performed using the same driver and pay load weight. Downloaded ECOM data was used in establishing the data profile for the measurable tailpipe emissions and fuel economy.

Recognizing the heavy-duty test vehicle was a well maintained operational unit and the diesel fuel (D-2) was CARB Ultra Low Sulfur (15 PPM-or-Less) the overall test results were significant and notably important. Analysis of the ECOM – data base indicated a fuel economy improvement range of up to 11.3% with a significant reduction in measurable opacity emissions. The results verify with a high level of confidence the viability of the Ethos liquid fuel catalyst and the high probability of its providing continuing improvement with time.

An additional set of over the road tests using the Ethos product are planned in the near future. Additional information concerning the tests may be directed to: (619) 575-0800.

Joseph Jones
Research Director

California Environmental Engineering - 2530 South Birch Street – Santa Ana, CA 92707 Phone: (714) 545-9822 Fax: (714) 545-7667

CEE LLC
CALIFORNIA ENVIRONMENTAL ENGINEERING

March 11, 2009

Ethos Environmental, Inc.
6800 Gateway Park Drive
San Diego, CA 92154

Attn: **Corey Schlossmann; Paul Rangel**

Re: **Ethos FR Liquid Fuel – Catalyst**

Executive Summary

A Proof-Of-Concept (POC) test series was accomplished during March 2009 using the Ethos – FR Liquid Fuel Catalyst. The tests were performed at the California Environmental Engineering (CEE) Laboratory, Center for Environmental Research in Santa Ana, California. The CEE Independent Laboratory is Environmental Protection Agency (EPA) recognized and California Air Resources Board (CARB) certified.

The POC tests were accomplished using a Cummins QSM-11 (400 HP) heavy-duty diesel engine as the representative test vehicle. The test protocol used was in accordance with the procedures defined in the Code of Federal Regulations (CFR) – 40, Part 86, Appendix 1. Standard 8-mode tests were performed using a heavy-duty engine dynamometer. Two 8-mode tests were completed initially without the Ethos fuel catalyst to establish a baseline average for tailpipe emissions, horse power and fuel economy. After introduction of the Ethos liquid fuel catalyst the engine was operated at varying speeds for a continual period of 10-hours. Following the test run a final 8-mode test was accomplished to compare to the baseline average.

Analysis of the database with and without the Ethos FR fuel catalyst indicates a significant trend in the reduction of measured tailpipe emissions for Hydrocarbons (HC), Carbon Monoxide (CO) and Particulate Matter (PM). A notable improvement in horsepower (HP) was achieved. The results of the POC – test series is considered important in developing a "carbon foot print" with respect to key emission reductions. The test results verify with a high level of confidence the viability of the Ethos FR – liquid fuel catalyst and the high probability of its providing continuing improvement with time. Additional information concerning the tests may be directed to: (619) 575-6800.

Joseph Jones
Research Director

Ethos Receives Order From Township in

Morris County, New Jersey

(MARKET WIRE)--Dec 17, 2008 -- Ethos Environmental, Inc., a San Diego-based company that manufactures fuel reformulators, (the "Company") (OTC BB:ETEV.OB - News) is pleased to announce that the Company has received an order for the purchase of our signature product, Ethos FR, from a township in Morris County, New Jersey.

This particular township conducted extensive testing using Ethos FR on township vehicles during the past few months. The test results revealed that township vehicles using Ethos FR saved in excess of 12% on fuel consumption and showed more than 32% decrease in emissions.

"The decision by this township to use Ethos FR provides yet another example of the many benefits that may be expected by using our eco-conscious product," stated Corey P. Schlossmann, Chief Executive Officer of Ethos.

(MARKET WIRE)--Oct 28, 2008 -- Ethos Environmental, Inc., a San Diego-based company that manufactures fuel reformulators (the "Company") (OTC BB:ETEV.OB - News), is pleased to announce that an **SAE J1321 Type II fuel consumption test of Ethos FR performed by FERIC**, a private, non-profit research and development organization and a division of FP Innovations, has **verified that Ethos FR increases fuel efficiency and significantly reduces emissions.**

When compared to a control vehicle following the rigorous testing protocol, the results concluded that Ethos FR successfully improved fuel efficiency and reduced harmful diesel emissions, as measured in opacity. In fact, the Ethos FR treated engine reduced emissions by 29.1% when compared to the baseline test.

The test results verify that the Ethos FR treated engine reduced fuel consumption, though the length and duration of the test did not provide the Ethos FR product sufficient mileage to achieve maximum results. In actual field results conducted by freight carriers, fuel efficiency improved by 7% to 19%, on average, as documented by fleet drivers. These actual field test periods have included a more typical mix of travel for heavy duty trucks, including longer runs, partial and/or lighter roads, and a higher amount of engine idling time -- all conditions where friction reduction has a direct relation to reducing fuel consumption.

As part of their Energotest 2008, a project which conducts controlled test-track studies of products for achieving higher fuel efficiency and lowering emissions in the transportation industry, FERIC tested Ethos FR. The testing protocol was based on the SAE J1321 Joint TMC/SAE Fuel Consumption Test Procedure - Type II. The vehicles used in the test were identical low-mileage 2006 Freightliner tractors, with Mercedes Benz 4000 engines. The tests were performed on a high speed test track, and the length of the test run was approximately 60 miles.

UNDERSTANDING YOUR ENGINE REPORT

It's easy!

You don't need to be an expert . . The built-in diagnostics do it for you!

The analytical test results and diagnostic comments / recommendations have been provided by the On-site Analyzer (OSA), which incorporates the latest technological advancements in the oil analysis industry.

The tests include optical emission spectroscopy and infrared spectroscopy to monitor engine or transmission internal wear rates as well as the physical properties of the oil to determine the oil's condition and serviceability.

We test for 10 elements: 6 wear metals, 1 additive metal, and 3 contaminant metals. The wear metals are minute particles of metal suspended in the oil, which are formed by friction between moving parts, abrasion or corrosion. The On-Site Analyzer produces a measurement in parts per million (ppm). These results are scientifically matched against known engine or transmission wear patterns and reported in the diagnostic comment section depending on the severity of the situation and on the following wear information for engines, transmissions and gear boxes (maximum 90 weight oil or 80W90 multi-grade oils). The condemning limits (or break points) are dependent on the engine or transmission make, the total number of miles on the system (or since overhaul).

Diagnostics:

Air Filter: Abnormal condition usually caused by the ingestion of dirt, resulting from a failed or torn air filter.

Bearings, Bushings, Camshaft and Crankshaft: Abnormal condition can be caused by local oil starvation resulting from a blocked oil-way, or ingested dirt or other abrasive material, or the presence of corrosive materials from a heavily degraded engine oil (too many hours on the oil)

Cooling System: Abnormal condition can be caused by leaks from gaskets or seals, a broken head gasket or from a cracked engine block.

Cylinders, Piston Rings, Pistons: Abnormal condition can be caused by poor lubrication resulting from blocked oil-ways or excessive deposits in the ring zone or the ingested dirt or other abrasive materials.

Engine Block: Abnormal condition can be caused by a cracking or distortion of the engine block resulting from extreme low or high temperatures.

Fuel System: Abnormal condition can be caused by leaks in internal fuel lines, a failed fuel pump diaphragm, or leaking fuel injectors (seats).

Summary Diagnostics:

Wear Metals: Abnormal condition can be caused by ingestion of dirt or other abrasive materials (failed air filter), local oil starvation (block oil-way), or corrosion caused by.

Coolant Content: Abnormal condition can cause severe degradation of the lubricant, leading to local oil starvation, lubricant failure and eventual excessive mechanical wear.

Sludge Potential: Abnormal condition can be caused by over-extension of the oil life or from regular short journeys where engine does not reach normal operating temperature.

Fuel Content: Abnormal condition can be caused by leaks in internal fuel lines, a failed fuel pump diaphragm, or leaking fuel injectors (seats).

Water Content: Abnormal condition can be caused by excessive condensation, and at high levels from a cracked engine block, a broken head gasket, a leaking water pump seal, or simply ingestion of water from operating vehicle in flood conditions.

Wear Metal Associations:

Aluminum: Pistons, engine blocks, blowers, and bearings.

Chromium: Compression rings, cams, low friction bearings, liners, zinc chromate cooling system inhibitor.

Copper: Bearings, bushings, thrust washers, oil cooler, and clutches, oil additive.

Iron: Crankshaft, valve train, cylinders, gears, liner, and bearings.

Lead: Bearings, contaminant from leaded gasoline (automotive only).

Tin: Pistons, bearings, and bushings.

Additive Metals:

Molybdenum: EP additives, alloying metal with iron, rings, friction reducing coating.

Contaminant Metals:

Contaminant metals result primarily through problems with the air intake system (Silica - dirt) or because of coolant leaks (Potassium, Sodium and sometimes Silicone are typical additives in water treatment chemicals). These metals are also measured in ppm and evaluated on content and severity.

Silicon: Usually an indication of dirt ingression when (the ratio of silicon to aluminum is 3.4:1) as the root resulting in abrasive wear, seal material, or a silicon based oil or coolant additive, piston torching with an increase in iron and chromium (the ratio of silicon to aluminum is 1:1).

Potassium: A common coolant additive that is an indication of a cooling system problem, fly ash, road salt, and trace element in fuel.

Sodium: oil additive constituent, coolant additive, road salt, salt water, fly ash, dirt, c nd grease.

Physical Properties: This section contains the physical data of your oil analysis and is explained as follows:

Water: Measured in % weight, can be an indication of condensation due to a cold running system, a cooling system leak, or outside contamination (severe at greater than 1%).

Glycol: Measured in % weight, is in the formulation of most commercial coolant. Its presence usually indicates some type of coolant leak (Abnormal at greater than 0.6%).

Fuel Dilution: Measured in % weight, can indicate faulty combustion, rich air/fuel mixture when present at between 2% and less than 5%. An injector problem or internal fuel line leak is typically indicated when fuel is detected in high level. This test result is accurate within ±4% for diesel engines and within ±1.5% for gasoline engines.

Oxidation: Measured in absorbance units, is the result of oxygen in the air interacting with the oil at elevated temperatures, and is a normal process as the oil ages. When an engine is operated continuously at high temperatures for extended periods, or when a drain interval is over–extended then values greater than 25 may be observed and an oil change is normally recommended. This test is accurate within ±4 absorption units.

Nitration: (Applicable for gasoline engines only) measured in absorbance units. Nitration products are formed during the fuel combustion process. The products are often corrosive and can accelerate oil deterioration.

Viscosity (Estimated value): This calculated measurement is an indication of the oil's ability to flow and lubricate the moving parts of the engine or transmission. It's an indication whether the oil is too thick or too thin. As an approximate guide, the viscosity of 15W40 weight diesel engine oil should be between 12.4 and 16.3. The viscosity of 10W30 weight automotive oil should be between 9.3 and 12.4.
The reported viscosity is an estimated number only. This estimated calculated viscosity is accurate within ±1.5 cSt.

Total Base Number (TBN, Estimated Value): A calculated measurement of the oil's alkaline reserve (additive) package of the oil that is capable of neutralizing acidic contaminants, primarily formed by the adsorption of combustion gases and the aging of the oil. Combustion by-products are the source of the strongest acids, therefore, over-extended oil drain intervals, insufficient additive package, or overheating are causes for a low TBN. Typically, when the TBN is below 3, it is an indication that the oil is no longer serviceable and should be scheduled for an oil change.

Additional Physical Properties (Diesel Engines Only):

Soot: Measured as %soot, is a normal combustion by-product of diesel fuel and appears as a contaminant in the oil. At high levels it can cause an increase in the oil's viscosity (thickening of the oil.) Higher than normal levels can indicate an improper air/fuel ratio, defective air intakes or injectors and can cause deposits, thickening and over-extension of the oil additives.

Summation of Speedco Oil analysis data on a 2002 Ford F-350 V8 diesel Crew Cab with 8' bed.

Starting Miles on Vehicle	Miles on oil	ELEMENTS														
		ALUMINUM	CHROMIUM	COPPER	IRON	LEAD	TIN	SILICON	POTASSIUM	SODIUM	MOLY	OXIDATION	VISC @ 100	TBN	NITRATION	SOOT
91703	5000	6	6	3	9	6	3	12	4	12	<2	<2.0	14.6	9.6	<2.0	1.1
96990	5000	4	3	14	15	<2	<2	14	17	3	<2	<2.0	14.5	10.2	<2.0	1.0
109649	5000	6	5	4	10	<2	<2	11	<2	4	<2	<2.0	14.6	9.4	<2.0	1.2
115743	ETHOS STARTED IN CRANKCASE AND FUEL															
119681	5281	2	<2	2	5	<2	<2	<2	5	<2	<2	<2.0	14.4	9.8	<2.0	0.5
133503	5000	5	<2	3	2	3	6	<2	<2	3	<2	4.2	14.4	9.9	<2.0	0.4
140362	6859	4	4	15	3	<2	<2	4	<2	5	<2	4.2	14.4	9.6	<2.0	0.5
150253	10000	7	5	8	7	7	<2	14	<2	4	<2	5.6	14.6	9.2	<2.0	0.7
Finishing Miles	Oil type - Shell Rotella T - 15W40															

This short analysis of Ethos Fuel Reformulator was completed by:

Robert McCormick, PhD
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Center for Transportation Technologies and Systems
The National Renewable Energy Laboratory
1617 Cole Blvd. MS1633
Golden, CO. 80401
303-275-4432
303-275-4415 (fax)

Engine testing was conducted in a 1991 DDC Series 60 engine over the heavy-duty transient test (federal test procedure). A blend of 20% soy biodiesel and Arco ECD1 was compared to this same fuel containing the Ethos Environmental additive system. Note that ECD1 is an extremely high quality, low emission diesel fuel formulation. Test results are shown in the table below.

Use of Ethos additive system in this engine produced a small but statistically significant reduction in CO and in PM. A larger reduction in HC was also observed, but HC emissions from diesel vehicles are so low that this is probably not of great significance (even if it is statistically significant).

	B20	B20+Ethos	% Change	Significance*
HC, g/bhp-h	0.07	0.05	-29	99%
CO, g/bhp-h	2.53	2.42	-4	94%
NO_x, g/bhp-h	4.65	4.65	0	no change
PM, g/bhp-h	0.181	0.175	-3	90%

*Percent change is statistically significant at this confidence level. This analysis assumes equal variance for the B20 and the B20+Ethos tests.

Fuel Additive - RTD Bus Testing Protocol
Draft - May 11, 2005

1	2	3	4
Instrumentation Vehicle Setup Propane Checks	Calibrations Road Load Derivation Programming Shakedown Runs	Dyno Warmup Cold Cycle Warm-up cycle Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Fuel Swap Hot Cycle - Additized Fuel A Hot Cycle - Additized Fuel A Hot Cycle - Additized Fuel A	Dyno Warmup Cold Cycle Warm-up cycle Hot Cycle - Additized Fuel A Hot Cycle - Additized Fuel A Hot Cycle - Additized Fuel A Fuel Swap Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel

6	7	8	9
Dyno Warmup Cold Cycle Warm-up cycle Hot Cycle - Additized Fuel B Hot Cycle - Additized Fuel B Hot Cycle - Additized Fuel B Fuel Swap Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel	Contingency This time will be used to make up any tests lost due to equipment failure.	Teardown	Analysis & Reporting

5
Dyno Warmup Cold Cycle Warm-up cycle Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Hot Cycle - Baseline Fuel Fuel Swap Hot Cycle - Additized Fuel B Hot Cycle - Additized Fuel B Hot Cycle - Additized Fuel B

10
Analysis & Reporting

FUEL (ARCO ECD-1)

BRAKE-SPECFIC EMISSION RESULTS

BSHC (CELL)	**0.090 g/hp-hr**
CO	**2.600 g/hp-hr**
NOx	**4.370 g/hp-hr**
PM	**0.214 g/hp-hr**

** These numbers are the baseline numbers for the fuel after several days of testing.

Southwest Research Institute - Department of Emissions Research
EPA Hot Transient Emission Test Results
Project No. 3.06906.001

Engine Model: 1991 DDC Series 60
Engine Desc.: 12.7 L (775 CID) I-6
Engine Cycle: Diesel
Engine S/N: 6RE001123

Test No.: C7-H1
Date: 09/03/2004 Time: 02:10
Program HDT: 4.12-C
Cell: 4 Bag Cart: 1

DIESEL 2D, EM-5265-F
HCR: 1.800 FID Resp: 1.00

Ambient/Test Cell Conditions

Barometer:	29.07	in Hg	98.4 kPa
Engine Inlet Air			
Temperature:	77.0	°F	25.0 °C
Dew Point:	56.4	°F	13.6 °C
Abs. Humidity:	70.0	gr/lb	10.0 g/kg
Rel. Humidity:	49	%	
Dilution Air:			
Temperature:	79.0	°F	26.1 °C
Abs. Humidity	71.9	gr/lb	10.3 g/kg
Rel. Humidity:	47	%	

Measured Gaseous Data

	Meter	Range	Concentration		
HC Sample	n/a		6.28	ppm	
HC Bckgrd	4.8	2	4.86	ppm	
CO Sample	42.5	2	41.37	ppm	(Dry)
CO Bckgrd	0.9	2	0.84	ppm	
NOx Sample	n/a		47.67	ppm	(Dry)
NOx Bckgrd	0.9	1	0.23	ppm	
CO2 Sample	72.6	1	0.6141	%	(Wet)
CO2 Bckgrd	8.2	1	0.0467	%	

Corrected Concentrations

HC	1.64	ppm
CO	39.47	ppm
NOx	46.41	ppm
CO2	0.5696	%

Mass Emissions

HC		1.183	grams	
CO		57.541	grams	
NOx		109.734	grams	
Particulate		4.133	grams	
CO2		13.048	kg	
Fuel	9.10	lb	4.13	kg

Sample Flows

	scfm	scmm
Blower 1 Rate:	2,183.2	61.83
Blower 2 Rate:	0.0	0.00
90 mm System:		
Gas Meter 1:	1.56	0.04
Gas Meter 2:	3.21	0.09
Sample Rate:	1.63	0.05
Total Flow Rate:	2,184.87	61.88

Particulate Data

Filter Number:	2508.0-41 (pair)	
Weight Gain:	3.077	mg
Sample Multiplier:	1.343	

Correction Factors

NOx Humidity CF:	0.987
Dry-to-Wet CF, Sample:	0.978
Dry-to-Wet CF, Bckgrd:	0.984
Dilution Factor:	21.66

Test Cycle Data

Sample Time:	1,214.30	sec		
Work:	23.63	hp-hr	17.62	kW-hr
Reference Work:	23.66	hp-hr	17.64	kW-hr
Total Volume (Vmix):	44,218.2	scf	1,252.29	scm

Brake-Specific Emission Results

BSHC	(Cell)	0.050 g/hp-hr	0.067	g/kW-hr
CO		2.435 g/hp-hr	3.266	g/kW-hr
NOx	(Cell)	4.644 g/hp-hr	6.228	g/kW-hr
Particulate		0.175 g/hp-hr	0.235	g/kW-hr
CO2		552.2 g/hp-hr	740.50	g/kW-hr
BSFC		0.365 lb/hp-hr	0.234	kg/kW-hr

FUEL (ARCO ECD-1 + B20)

BRAKE-SPECFIC EMISSION RESULTS

BSHC	**0.070 g/hp-hr**
CO	**2.530 g/hp-hr**
NOx	**4.650 g/hp-hr**
PM	**0.181 g/hp-hr**

** These are the baseline numbers the reference fuel (ARCO ECD-1) and B20.

Southwest Research Institute - Department of Emissions Research
EPA Hot Transient Emission Test Results
Project No. 3.06906.001

Engine Model: 1991 DDC Series 60
Engine Desc.: 12.7 L (775 CID) I-6
Engine Cycle: Diesel
Engine S/N: 6RE001123

Test No.: C7-H2
Date: 09/03/2004 Time: 02:50
Program HDT: 4.12-C
Cell: 4 Bag Cart: 1

DIESEL 2D, EM-5265-F
HCR: 1.800 FID Resp: 1.00

Ambient/Test Cell Conditions

Barometer:	29.06	In Hg	98.4 kPa
Engine Inlet Air			
Temperature:	77.0	°F	25.0 °C
Dew Point:	56.2	°F	13.4 °C
Abs. Humidity:	69.5	gr/lb	9.9 g/kg
Rel. Humidity:	49	%	
Dilution Air:			
Temperature:	76.0	°F	24.4 °C
Abs. Humidity	72.0	gr/lb	10.3 g/kg
Rel. Humidity:	52	%	

Measured Gaseous Data

	Meter	Range	Concentration		
HC Sample	n/a		5.97	ppm	
HC Bckgrd	4.5	2	4.56	ppm	
CO Sample	42.2	2	41.07	ppm	(Dry)
CO Bckgrd	1.8	2	1.69	ppm	
NOx Sample	n/a		48.15	ppm	(Dry)
NOx Bckgrd	0.8	1	0.20	ppm	
CO2 Sample	71.4	1	0.5984	%	(Wet)
CO2 Bckgrd	8.6	1	0.0491	%	

Corrected Concentrations

HC	1.62	ppm
CO	38.33	ppm
NOx	46.92	ppm
CO2	0.5515	%

Mass Emissions

HC		1.158	grams
CO		55.679	grams
NOx		110.399	grams
Particulate		4.186	grams
CO2		12.591	kg
Fuel	8.79 lb	3.98	kg

Sample Flows

	scfm	scmm
Blower 1 Rate:	2,175.8	61.62
Blower 2 Rate:	0.0	0.00
90 mm System:		
Gas Meter 1:	1.58	0.04
Gas Meter 2:	3.25	0.09
Sample Rate:	1.67	0.05
Total Flow Rate:	2,177.42	61.67

Particulate Data

Filter Number: 2509.0-42 (pair)
Weight Gain: 3.208 mg
Sample Multiplier: 1.305

Correction Factors

NOx Humidity CF:	0.986
Dry-to-Wet CF, Sample:	0.978
Dry-to-Wet CF, Bckgrd:	0.984
Dilution Factor:	22.22

Test Cycle Data

Sample Time:	1,214.20	sec		
Work:	23.48	hp-hr	17.51	kW-hr
Reference Work:	23.56	hp-hr	17.64	kW-hr
Total Volume (Vmix):	44,063.7	scf	1,247.91	scm

Brake-Specific Emission Results

BSHC	(Cell)	0.049 g/hp-hr	0.066	g/kW-hr
CO		2.371 g/hp-hr	3.180	g/kW-hr
NOx	(Cell)	4.702 g/hp-hr	6.305	g/kW-hr
Particulate		0.178 g/hp-hr	0.239	g/kW-hr
CO2		536.2 g/hp-hr	719.09	g/kW-hr
BSFC		0.374 lb/hp-hr	0.228	kg/kW-hr

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FUEL (ARCO ECD-1 + B20 + ETHOS)

BRAKE-SPECFIC EMISSION RESULTS

BSHC	**0.050 g/hp-hr**
CO	**2.420 g/hp-hr**
NOx	**4.650 g/hp-hr**
PM	**0.175 g/hp-hr**

Southwest Research Institute - Department of Emissions Research
EPA Hot Transient Emission Test Results
Project No. 3.06906.001

Engine Model: 1991 DDC Series 60
Engine Desc.: 12.7 L (775 CID) I-6
Engine Cycle: Diesel
Engine S/N: 6RE001123

Test No.: C7-H3
Date: 09/03/2004 Time: 03:30
Program HDT: 4.12-C
Cell: 4 Bag Cart: 1

DIESEL 2D, EM-5265-F
HCR: 1.800 FID Resp: 1.00

Ambient/Test Cell Conditions

Barometer:	29.04	in Hg	98.3 kPa
Engine Inlet Air			
Temperature:	77.0	°F	25.0 °C
Dew Point:	56.7	°F	13.7 °C
Abs. Humidity:	70.9	gr/lb	10.1 g/kg
Rel. Humidity:	50	%	
Dilution Air:			
Temperature:	78.0	°F	25.6 °C
Abs. Humidity	73.7	gr/lb	10.5 g/kg
Rel. Humidity:	50	%	

Measured Gaseous Data

	Meter	Range	Concentration		
HC Sample	n/a		6.24	ppm	
HC Bckgrd	4.7	2	4.76	ppm	
CO Sample	43.4	2	42.26	ppm	(Dry)
CO Bckgrd	1.5	2	1.41	ppm	
NOx Sample	n/a		47.58	ppm	(Dry)
NOx Bckgrd	1.0	1	0.25	ppm	
CO2 Sample	72.7	1	0.6154	%	(Wet)
CO2 Bckgrd	8.5	1	0.0485	%	

Corrected Concentrations

HC	1.70	ppm
CO	39.76	ppm
NOx	46.29	ppm
CO2	0.5591	%

Mass Emissions

HC		1.218	grams
CO		57.744	grams
NOx		109.248	grams
Particulate		4.099	grams
CO2		12.988	kg
Fuel	9.06 lb	4.11	kg

Sample Flows

	scfm	scmm
Blower 1 Rate:	2,174.2	61.57
Blower 2 Rate:	0.0	0.00
90 mm System:		
Gas Meter 1:	1.57	0.04
Gas Meter 2:	3.24	0.09
Sample Rate:	1.67	0.05
Total Flow Rate:	2,175.83	61.62

Particulate Data

Filter Number:	2510.0-43 (pair)	
Weight Gain:	3.144	mg
Sample Multiplier:	1.304	

Correction Factors

NOx Humidity CF:	0.989
Dry-to-Wet CF, Sample:	0.978
Dry-to-Wet CF, Bckgrd:	0.983
Dilution Factor:	21.61

Test Cycle Data

Sample Time:	1,214.60	sec		
Work:	23.66	hp-hr	17.64	kW-hr
Reference Work:	23.66	hp-hr	17.64	kW-hr
Total Volume (Vmix):	44,046.0	scf	1,247.41	scm

Brake-Specific Emission Results

BSHC	(Cell)	0.051 g/hp-hr	0.069	g/kW-hr
CO		2.441 g/hp-hr	3.273	g/kW-hr
NOx	(Cell)	4.617 g/hp-hr	6.192	g/kW-hr
Particulate		0.173 g/hp-hr	0.232	g/kW-hr
CO2		548.9 g/hp-hr	736.15	g/kW-hr
BSFC		0.383 lb/hp-hr	0.233	kg/kW-hr

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