



**FEBRUARY 4, 2008 – SESSION 7**

**MANAGING BIODIESEL FUEL QUALITY  
& FIELD PERFORMANCE**

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TRIPLE S PETROLEUM**

**Gaylord Palms Resort & Convention Center  
Orlando, Florida  
February 3-6, 2008**

# Triple S Petroleum Co.

- Located In Austin Texas
- Family Owned
- Serving Central Texas Since 1958
- 2 Transport & 3 Bobtail Trucks
- Member Of Biodiesel Coalition Of Texas
- Member Of Central Texas Clean Cities



# Triple S Petroleum Biodiesel Background

- Processing, Blending & Distributing - July 2005
- Selling B-5, B-10 & B-20 Blends
- 30 Retail Locations Austin & Surrounding Area
- Bulk Wholesale Distribution



# Steps To Success

■ **Purchase From Reputable Producer / Distributor**

■ **Build A Relationship With Your Supplier(s)**

■ **Know Your Feedstock**

\* **How Will It Perform In Your Climate?**

\* **Become A “Weatherbug”**

■ **Certificate Of Analysis**

\* **Cloud Point**

\* **Cetane**

**Customer:** PACIFIC BIODIESEL TEXAS  
**Customer #:** 107310  
**Location:** HILLSBORO  
**Unit:** TANK#3  
**Description:** ASTM D6751-07a

**Report Date:** 12/14/2007  
**Sample Date:** 12/11/07  
**Sample Number:** L0604

## BIODIESEL REPORT

Property	Units	ASTM Test Method	TEST RESULTS	ASTM D-6751-06e1 SPECIFICATION
Flash Point	°C	D-93	182	130 min.
Water and Sediment	% Volume	D-2709	<0.05	0.05 max.
Carbon residue	% Mass	D-4530	0.02	0.05 max.
Sulfated Ash	% Mass	D-874	<0.001	0.02 max
Kinematic Viscosity, 40°C	mm <sup>2</sup> /s (cSt)	D-445	4.15	1.9 – 6.0
Sulfur	ppm	D-5453	<0.001	15 max. Grade S15 500 max. Grade S500
Cetane Number		D-613	48.2	47 min.
Cloud Point	°C	D-2500	0	REPORT VALUE
Copper Corrosion		D-130	1A	No. 3 max.
Acid Number	mg KOH/g	D-664	0.39	0.80 max.
Free glycerin	% Mass	D-6584	<0.01	0.02 max.
Total glycerin	% Mass	D-6584	0.08	0.24 max.
Phosphorus content	ppm	D-4951	<0.1	10 max.
Sodium & Potassium	ppm	UOP 391	<0.1	5 max.
Calcium & Magnesium	ppm	UOP 389	<0.1	5 max.
Distillation, 90% recovered	°C	D-1160	330	360 °C max.
Oxidation Stability, 110°C	Hours	EN 14112	4.0	3 min.

# Feedstocks

## ■ We Have Used...

- \* Soybean
- \* Cottonseed
- \* W.V.O.
- \* Animal Tallow
- \* Blends
  - \* Soy/Palm
  - \* Cottonseed/Tallow
  - \* Soy/Tallow



# Managing Fuel Quality

- **Certificate Of Analysis**
- **Reputable Transportation**
- **Sample Prior To Offload**
- **Record Keeping**
  - \* **Date Received**
  - \* **Supplier**
  - \* **Carrier**
  - \* **Trailer #**
  - \* **Type Of Feedstock**
  - \* **Tank #**
  - \* **BOL #**
- **B-100 Storage**



# Storage Tanks

- **Semi-Annual Check**
- **Clean As Needed**



# Blending - Summer vs. Winter

- B-20 Blend - Fair Weather Friend
- 2006 – “Winter” Arrives In Texas
  - \* Cottonseed Bio / B-20 Blend
- Cold Flow Issues
  - \* Clogged Filters
  - \* Restricted Flow
  - \* Gel In Tanks



# Does All Biodiesel Look/Smell The Same?

- NO!
- Depends On Type Of Feedstock Used
- Producer Blends



# Biodiesel Blends

- **B-20 Blend – Our Preferred Blend**
  - \* **20% Bio / 80% Petroleum Diesel**
- **B-10 Blend – “Winter Blend”**
  - \* **10% Bio / 90% Petroleum Diesel**
- **1/01/08 – New TCEQ Mandates**
  - \* **B-5 Blend Without Additive**
  - \* **TxLED Requirements In Texas**

# What Blending Method Is Used?

- **Splash Blending**
- **Terminal – Load  
Petroleum Diesel**
- **Blending Rack – Load  
B-100**
- **Distribute To End-User**



# Problems

## ■ Filters

- \* 30 Micron / Weekly
- \* 10 Micron / Bio / 6 Months
- \* Veeder-Root Screen



## ■ Slippery Goop!

- \* Monthly Filter Changes
- \* Slow Pumps

## ■ Passed to Vehicles??

## ■ Cleaned Tanks

- \* No Problems
- \* Regular Filter Changes



# **Biodiesel Training**

## **■ In House / C-Store**

- \* Sales Force – Know the product**
- \* Office Staff – Field the questions**
- \* Accounting – Proper credits & taxes**
- \* Drivers – Proper blending**
- \* Computer System – User friendly?**

## **■ Customers**

- \* Performance – Reported better mileage**
- \* Benefits – Adds Lubricity to ULSD**
- \* Alternative Fuel - Reduced Dependency**

**THANK YOU**

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