



330 Lee Industrial Blvd  
Austell, GA 30168  
(770) 241-6315

## FUEL ANALYSIS REPORT

Condition Summary

STATUS: **MONITOR** ON **4/2/2018**

Sample Report

Compartment **FUEL TANK 521 gal**

| REPORT DATE       | LAB CONTROL NUMBER        | ANALYST                  | SAMPLE DATE     |
|-------------------|---------------------------|--------------------------|-----------------|
| <b>4/19/2018</b>  | <b>D500-48102-9401</b>    | <b>RPB</b>               | <b>4/2/2018</b> |
| WORK ORDER NUMBER | EQUIPMENT ID / MACHINE SN | JOBSITE / LOCATION       |                 |
| <b>E647595</b>    | <b>211028</b>             | <b>ANNEX 2 BASE TANK</b> |                 |

### INTERPRETATION

Trace amount of flake like scale or rust precipitates. Fuel slightly cloudy suggesting probable suspended or soluble water. Trace metals iron and boron indicating rust and possible fuel additive (biocide). Millipore filter showed tan / brown discoloration. Moderate number of shiny metallic particles, fairly large rust or scale particles and black oxides. Recommend bulk fuel filtration / coalescer to remove particulate debris and moisture. Inspect fuel filters for visible debris, change filter / screen as necessary. Biodiesel blends under long term storage conditions may be susceptible to oxidative degradation and free glycerin build up. Exposure to heat, air, metals, water and light exposure contributes to degradation of fuel quality. Fuel stabilizer and antioxidant additives can be effective at stabilizing biodiesel blends.

### Test Description

### Results

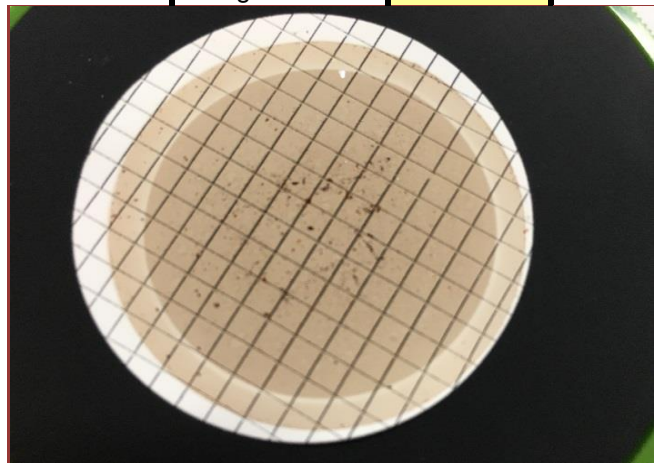
Magnification **10X**

|  |                               |
|--|-------------------------------|
| <b>Biodiesel %</b>                     | <b>3.6</b>                    |
| Appearance / Color                     | RED, SLIGHT CLOUDY            |
| Precipitate Amount                     | <b>TRACE</b>                  |
| Precipitate Appearance                 | <b>FLAKES</b>                 |
| Precipitate Color-Description          | <b>RUST</b>                   |
| Clear & Bright                         | <b>NOT CLEAR &amp; BRIGHT</b> |
| Free Water %Vol.                       | <0.05                         |
| Odor                                   | NORMAL                        |
| <b>Haze Rating (1-6)</b>               | <b>1</b>                      |
| <b>Color &amp; Particle Assessment</b> | <b>B6-F</b>                   |
| <b>Particulate Contamination, mg/L</b> | <b>15.0</b>                   |
| <b>Particle Count - ISO CODE</b>       | <b>15/11</b>                  |
| <b>Microbial Contamination</b>         | <b>NEGATIVE</b>               |
| Bacteria Count                         | <LDL                          |
| Fungus Count                           | <LDL                          |

### ICP Metals, PPM

| Fe | Cr | Al | Ni | Pb | Sn | Cu | Ag | Si |
|----|----|----|----|----|----|----|----|----|
| 2  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  |

| B | Na | K | Mo | P | Zn | Ca | Mg | Ti |
|---|----|---|----|---|----|----|----|----|
| 9 | 2  | 0 | 0  | 0 | 1  | 0  | 1  | 0  |



Photomicrograph 1 1 sq = 1.8 mm 0.80 µm

Photomicrographs showing moderate discoloration, metallic particles, rust, scale and black oxides.

Accuracy of test data and interpretation is dependent upon a sample representative of the condition of the compartment sampled, and complete and concise information regarding the equipment and sample.

Photo 2 100X

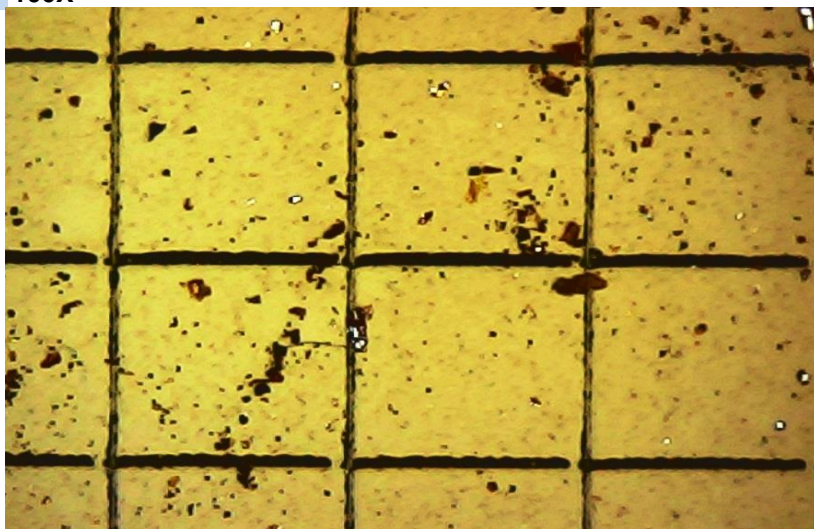


Photo 3 100X

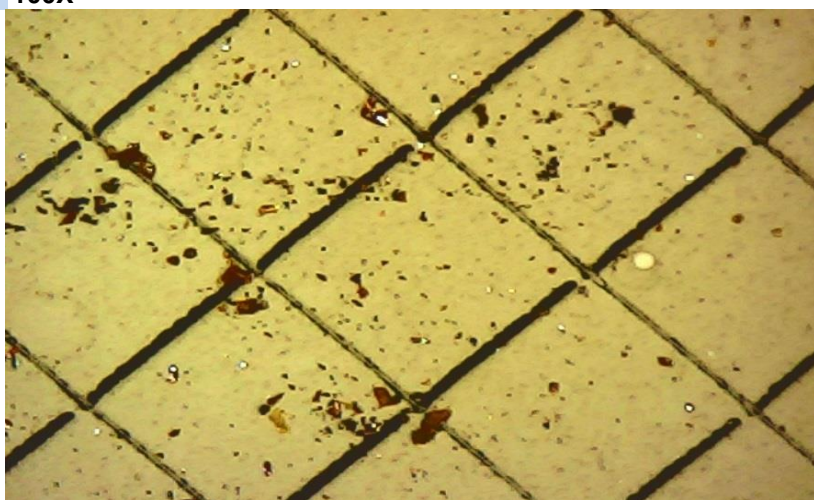


Photo 4 500x