



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

|                 |        |
|-----------------|--------|
| WEAR            | NORMAL |
| CONTAMINATION   | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id  
**JOHN DEERE PLUS II 15W40 3/10/16**

Component  
**New (Unused) Oil**

Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

**RECOMMENDATION**

This is a baseline read-out on the submitted sample.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | TR03945198  | ---      | ---      |
| Sample Date    |     | Client Info |           | 10 Mar 2016 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 0           | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Changed    |     | Client Info |           | N/A         | ---      | ---      |
| Filter Changed |     | Client Info |           | N/A         | ---      | ---      |
| Sample Status  |     |             |           | NORMAL      | ---      | ---      |

**WEAR**

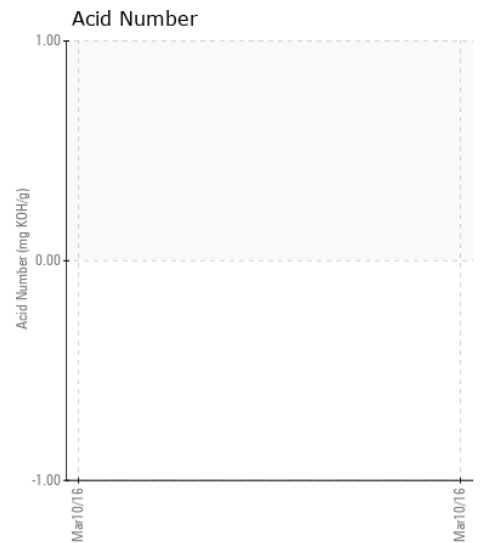
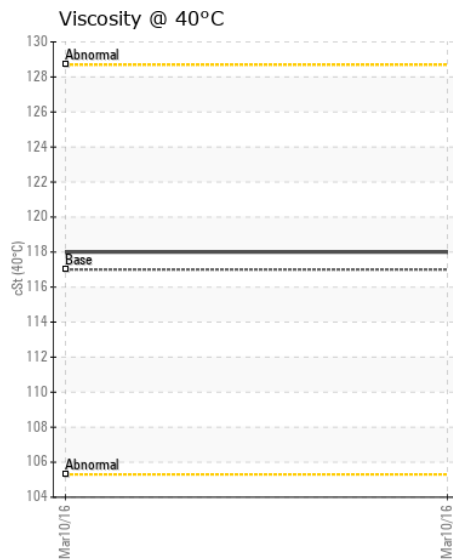
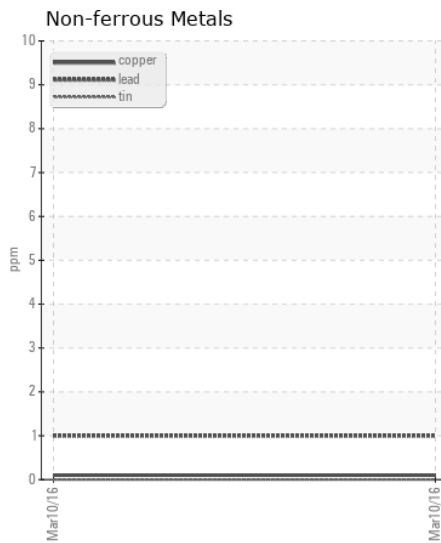
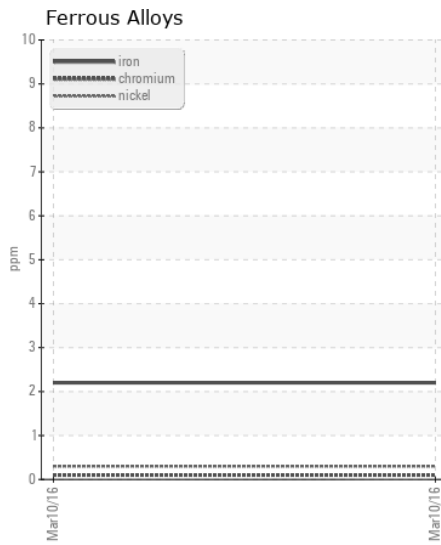
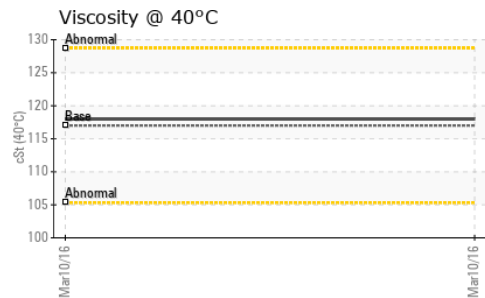
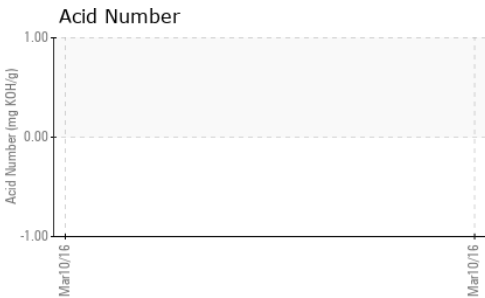
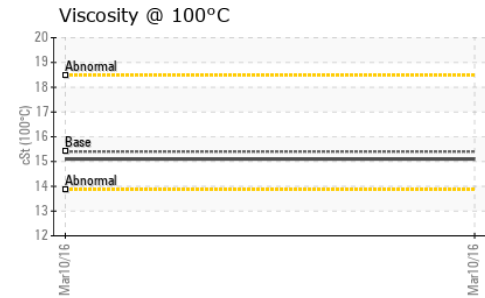
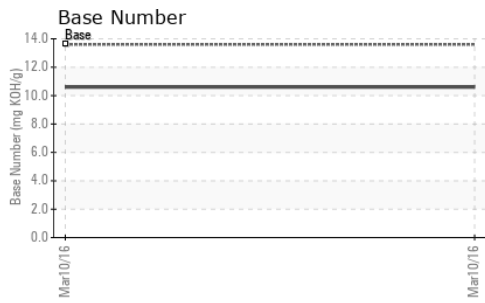
|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m |      | 2    | --- | --- |
| Chromium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Nickel       | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Silver       | ppm    | ASTM D5185m |      | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m |      | 5    | --- | --- |
| Lead         | ppm    | ASTM D5185m |      | 1    | --- | --- |
| Copper       | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Tin          | ppm    | ASTM D5185m |      | 0    | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

**CONTAMINATION**

|                  |        |             |       |       |     |     |
|------------------|--------|-------------|-------|-------|-----|-----|
| Silicon          | ppm    | ASTM D5185m |       | 9     | --- | --- |
| Potassium        | ppm    | ASTM D5185m | >20   | 0     | --- | --- |
| Water            |        | WC Method   |       | NEG   | --- | --- |
| Silt             | scalar | *Visual     | NONE  | NONE  | --- | --- |
| Debris           | scalar | *Visual     | NONE  | NONE  | --- | --- |
| Sand/Dirt        | scalar | *Visual     | NONE  | NONE  | --- | --- |
| Appearance       | scalar | *Visual     | NORML | NORML | --- | --- |
| Odor             | scalar | *Visual     | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual     |       | NEG   | --- | --- |

**FLUID CONDITION**

|                      |          |             |      |       |     |     |
|----------------------|----------|-------------|------|-------|-----|-----|
| Sodium               | ppm      | ASTM D5185m |      | 2     | --- | --- |
| Boron                | ppm      | ASTM D5185m |      | 296   | --- | --- |
| Barium               | ppm      | ASTM D5185m |      | 0     | --- | --- |
| Molybdenum           | ppm      | ASTM D5185m |      | 284   | --- | --- |
| Manganese            | ppm      | ASTM D5185m |      | <1    | --- | --- |
| Magnesium            | ppm      | ASTM D5185m |      | 939   | --- | --- |
| Calcium              | ppm      | ASTM D5185m |      | 1510  | --- | --- |
| Phosphorus           | ppm      | ASTM D5185m |      | 976   | --- | --- |
| Zinc                 | ppm      | ASTM D5185m |      | 1092  | --- | --- |
| Sulfur               | ppm      | ASTM D5185m |      | 3035  | --- | --- |
| Base Number (BN)     | mg KOH/g | ASTM D2896  | 13.6 | 10.6  | --- | --- |
| Visc @ 40°C          | cSt      | ASTM D445   | 117  | 118.0 | --- | --- |
| Visc @ 100°C         | cSt      | ASTM D445   | 15.4 | 15.1  | --- | --- |
| Viscosity Index (VI) | Scale    | ASTM D2270  | 139  | 132   | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR03945198 **Received** : 18 Mar 2016  
**Lab Number** : 03945198 **Tested** : 22 Mar 2016  
**Unique Number** : 7335655 **Diagnosed** : 22 Mar 2016 - Doug Bogart  
**Test Package** : MOB 2 ( Additional Tests: KV100, PrtCount, TBN, VI )

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To discuss this sample report, contact Customer Service at 1-800-827-0711.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T: x:  
 F: x: