



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id  
**PETERBILT 389 46 (S/N 269032)**

Component  
**Diesel Engine**

Fluid  
**TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (12 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1    | History2    |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number  |     | Client Info |           | TR06228150  | TR06045702  | TR05776227  |
| Sample Date    |     | Client Info |           | 30 Mar 2024 | 07 Apr 2023 | 17 Dec 2022 |
| Machine Age    | mls | Client Info |           | 434674      | 410000      | 385310      |
| Oil Age        | mls | Client Info |           | 25000       | 24690       | 25888       |
| Filter Age     | mls | Client Info |           | 25000       | 0           | 25888       |
| Oil Changed    |     | Client Info |           | Changed     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | Changed     | Changed     | Changed     |
| Sample Status  |     |             |           | NORMAL      | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |      |      |      |
|--------------|--------|-------------|------|------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | 28   | 11   | 17   |
| Chromium     | ppm    | ASTM D5185m | >20  | 1    | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <1   | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <1   | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | 0    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | 6    | 3    | 5    |
| Lead         | ppm    | ASTM D5185m | >40  | <1   | 0    | 1    |
| Copper       | ppm    | ASTM D5185m | >330 | 6    | <1   | 2    |
| Tin          | ppm    | ASTM D5185m | >15  | <1   | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <1   | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | NONE | NONE | NONE |

**CONTAMINATION**

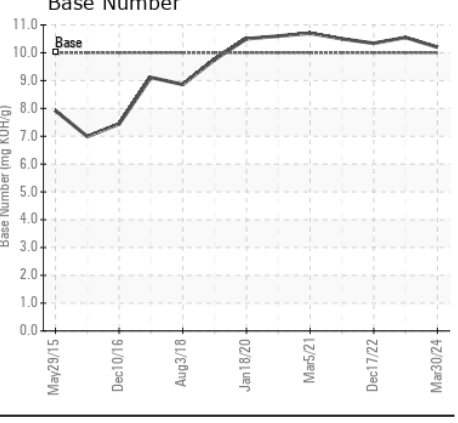
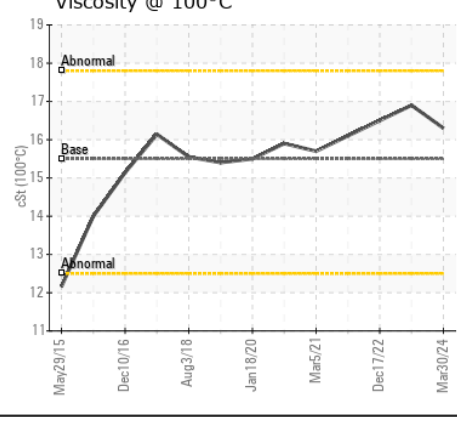
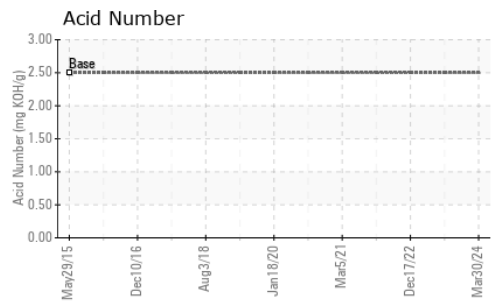
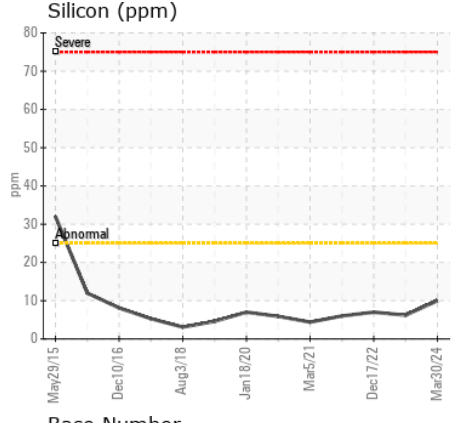
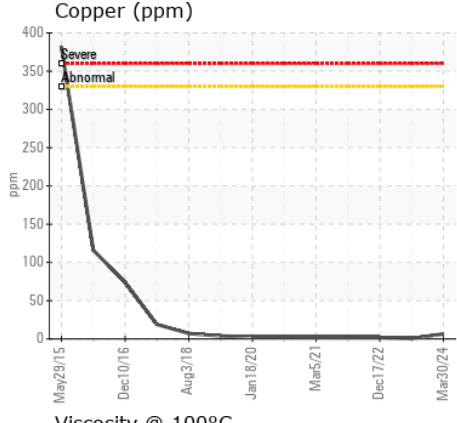
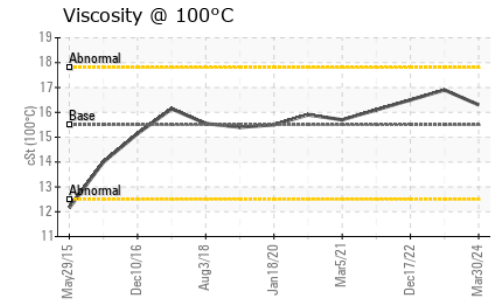
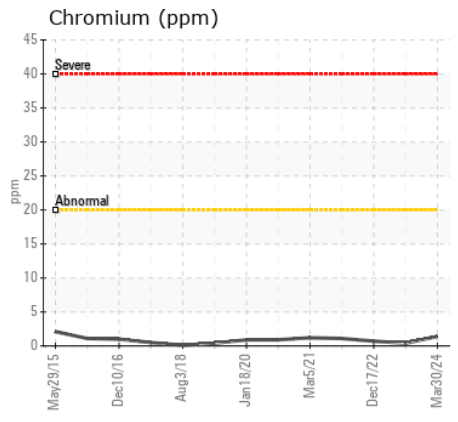
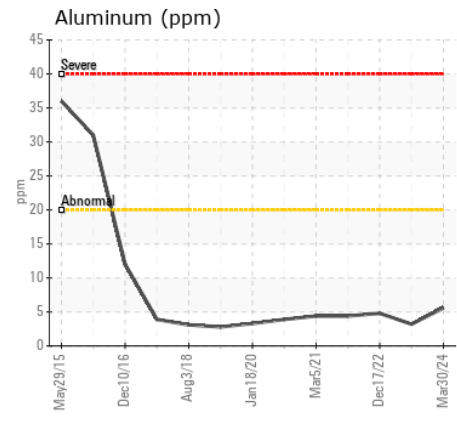
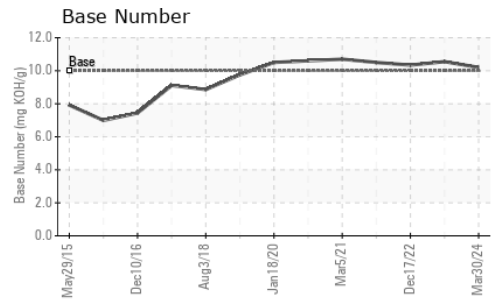
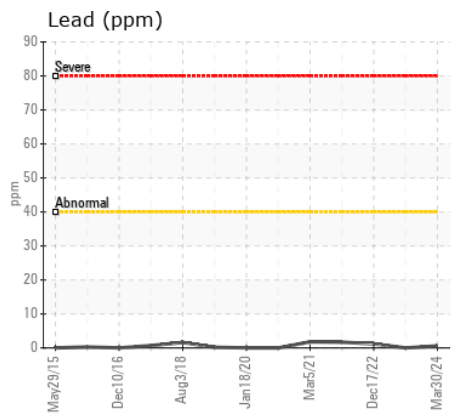
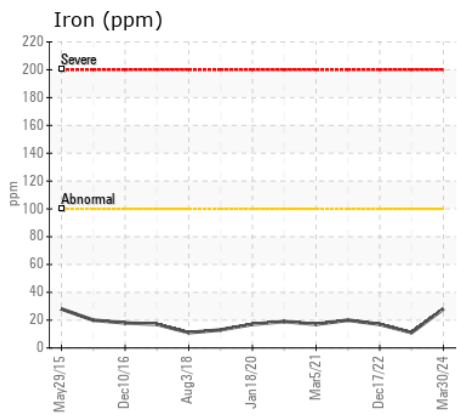
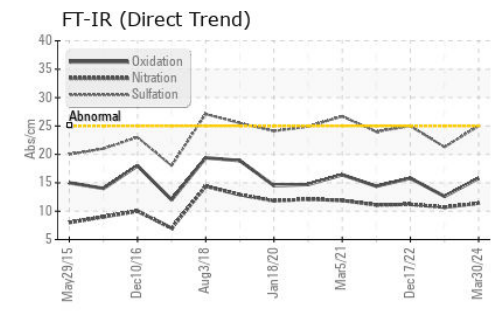
There is no indication of any contamination in the oil.

|                  |          |             |       |       |       |       |
|------------------|----------|-------------|-------|-------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | 10    | 6     | 7     |
| Potassium        | ppm      | ASTM D5185m | >20   | 4     | <1    | 2     |
| Fuel             |          | WC Method   | >5    | <1.0  | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | NEG   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | NEG   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | 0.3   | 0.4   | 0.3   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 11.4  | 10.7  | 11.2  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 25.0  | 21.3  | 25.0  |
| Silt             | scalar   | *Visual     | NONE  | NONE  | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | NONE  | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | NONE  | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | NORML | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | NEG   | NEG   | NEG   |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |       |       |       |
|------------------|----------|-------------|------|-------|-------|-------|
| Sodium           | ppm      | ASTM D5185m |      | 3     | 2     | 3     |
| Boron            | ppm      | ASTM D5185m |      | <1    | 0     | 0     |
| Barium           | ppm      | ASTM D5185m |      | 0     | 0     | 0     |
| Molybdenum       | ppm      | ASTM D5185m |      | 2     | 0     | 1     |
| Manganese        | ppm      | ASTM D5185m |      | <1    | <1    | <1    |
| Magnesium        | ppm      | ASTM D5185m |      | 21    | 20    | 19    |
| Calcium          | ppm      | ASTM D5185m | 2300 | 4848  | 4627  | 4405  |
| Phosphorus       | ppm      | ASTM D5185m |      | 889   | 944   | 856   |
| Zinc             | ppm      | ASTM D5185m | 1200 | 1155  | 1070  | 1054  |
| Sulfur           | ppm      | ASTM D5185m |      | 4221  | 4017  | 4638  |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 15.8  | 12.6  | 15.8  |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10   | 10.20 | 10.55 | 10.34 |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.5 | 16.3  | 16.9  | 16.5  |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06228150 **Received** : 03 Jul 2024  
**Lab Number** : 06228150 **Tested** : 08 Jul 2024  
**Unique Number** : 11111643 **Diagnosed** : 08 Jul 2024 - Angela Borella  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )

**ZACHRY FARMS**  
 15231 COUNTY FARM RD  
 CARLYLE, IL  
 US 62231  
 Contact: CHARLES FLATT

Certificate L2367  
 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:  
F: