



OIL ANALYSIS REPORT

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

Machine Id
1HTWYAHT75J172442

Component
Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC IV HD SYN 5W40 (11 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|----------|
| Sample Number | | Client Info | | TR05993803 | TR05968413 | --- |
| Sample Date | | Client Info | | 23 Oct 2023 | 20 Sep 2023 | --- |
| Machine Age | hrs | Client Info | | 10633 | 10537 | --- |
| Oil Age | hrs | Client Info | | 30 | 480 | --- |
| Filter Age | hrs | Client Info | | 30 | 480 | --- |
| Oil Changed | | Client Info | | Changed | Not Changed | --- |
| Filter Changed | | Client Info | | Changed | Not Changed | --- |
| Sample Status | | | | MARGINAL | SEVERE | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|------|-----|
| Iron | ppm | ASTM D5185m | >90 | 3 | 38 | --- |
| Chromium | ppm | ASTM D5185m | >4 | <1 | 2 | --- |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >15 | 3 | 6 | --- |
| Lead | ppm | ASTM D5185m | >50 | 0 | 3 | --- |
| Copper | ppm | ASTM D5185m | >55 | <1 | 17 | --- |
| Tin | ppm | ASTM D5185m | >4 | 0 | 2 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

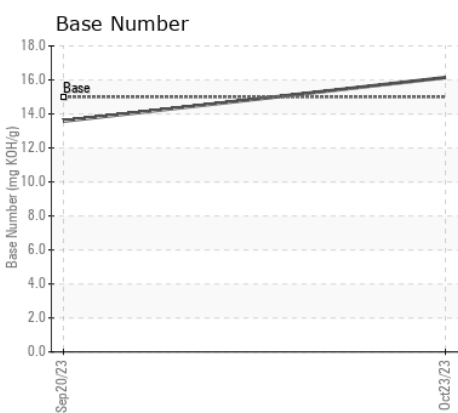
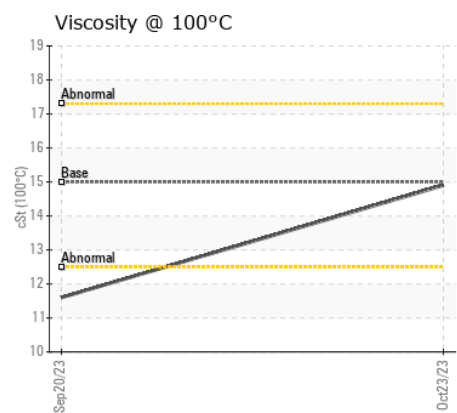
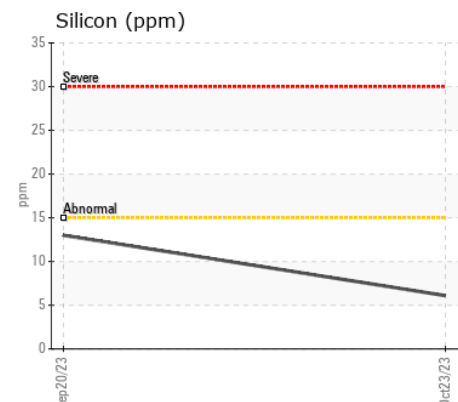
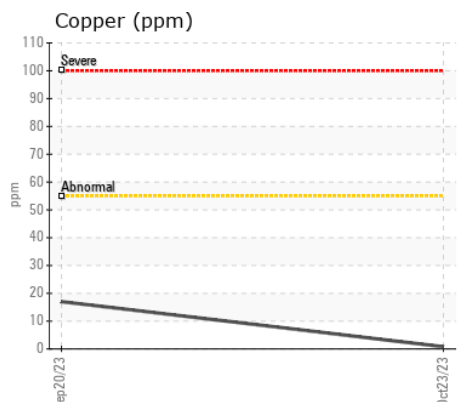
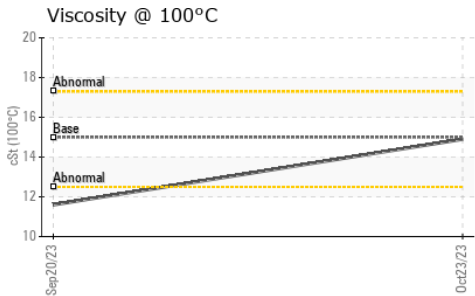
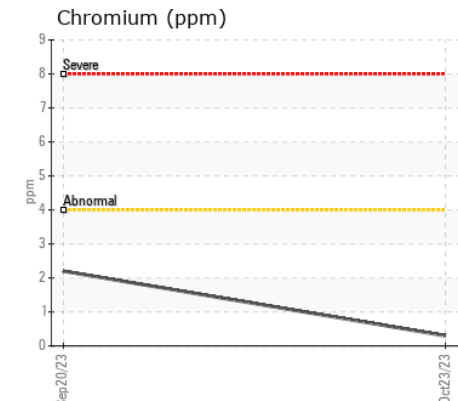
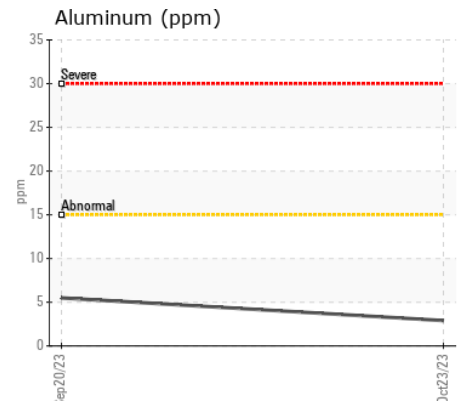
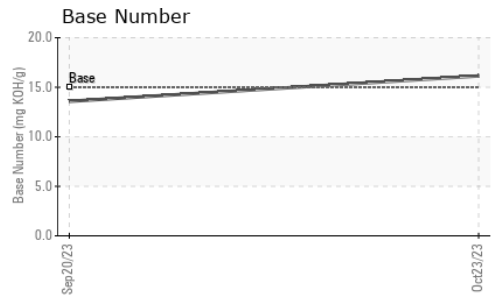
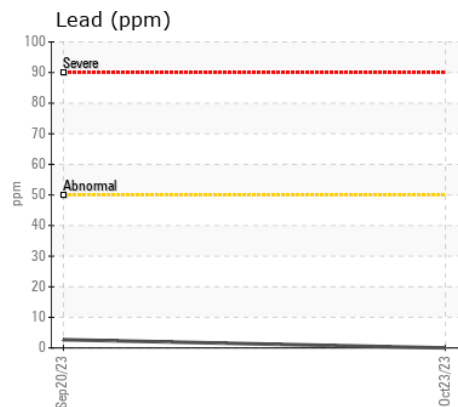
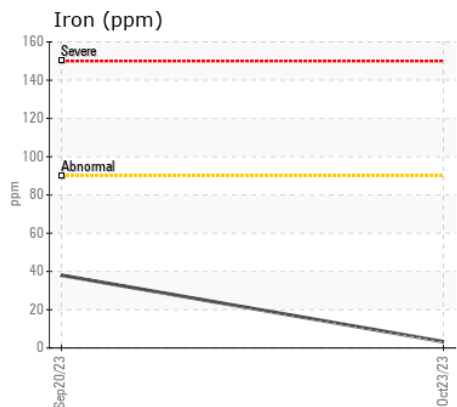
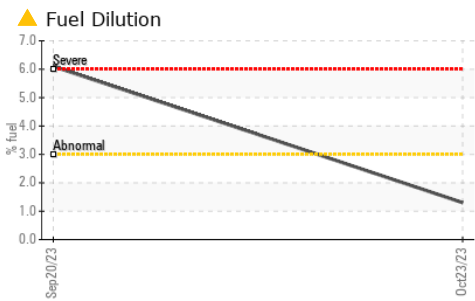
Light fuel dilution occurring. No other contaminants were detected in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-------|-----|
| Silicon | ppm | ASTM D5185m | >15 | 6 | 13 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 4 | --- |
| Fuel | % | ASTM D3524 | >3.0 | ▲ 1.3 | 6.1 | --- |
| Water | | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >6 | 0.7 | 0.8 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.2 | 10.0 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.0 | 20.2 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | 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 | 4 | --- |
| Boron | ppm | ASTM D5185m | | 10 | 14 | --- |
| Barium | ppm | ASTM D5185m | | 20 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 135 | 133 | --- |
| Manganese | ppm | ASTM D5185m | | <1 | 1 | --- |
| Magnesium | ppm | ASTM D5185m | | 29 | 27 | --- |
| Calcium | ppm | ASTM D5185m | 4500 | 4004 | 4838 | --- |
| Phosphorus | ppm | ASTM D5185m | | 966 | 904 | --- |
| Zinc | ppm | ASTM D5185m | 1200 | 1043 | 1100 | --- |
| Sulfur | ppm | ASTM D5185m | | 5507 | 4859 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.5 | 11.3 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 15 | 16.14 | 13.58 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15 | 14.9 | ▲ 11.6 | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05993803 **Received** : 30 Oct 2023
Lab Number : 05993803 **Tested** : 03 Nov 2023
Unique Number : 10722163 **Diagnosed** : 04 Nov 2023 - Don Baldrige
Test Package : MOB 2 (Additional Tests: PercentFuel)

HARRIS ENERGY INC
 456 WEST MAIN ST
 LITTLETON, NH
 US 03561
 Contact: DON PERCY

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)

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F: