



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

Machine Id
LOUISIANA PRIDE

Component
Port Main Engine

Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (40 GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0057344 | MW0003441 | MW0042894 |
| Sample Date | | Client Info | | 20 Feb 2024 | 05 Nov 2023 | 17 Oct 2023 |
| Machine Age | hrs | Client Info | | 19753 | 18329 | 17235 |
| Oil Age | hrs | Client Info | | 1426 | 1512 | 407 |
| Filter Age | hrs | Client Info | | 1426 | 1512 | 407 |
| Oil Changed | | Client Info | | Changed | Changed | Not Changd |
| Filter Changed | | Client Info | | Changed | Changed | Not Changd |
| Sample Status | | | | ABNORMAL | ABNORMAL | MARGINAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >75 | 8 | 6 | 4 |
| Chromium | ppm | ASTM D5185m | >8 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 11 | 10 | 10 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >15 | 1 | <1 | 1 |
| Lead | ppm | ASTM D5185m | >18 | 4 | 2 | 1 |
| Copper | ppm | ASTM D5185m | >80 | <1 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >14 | <1 | 0 | <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

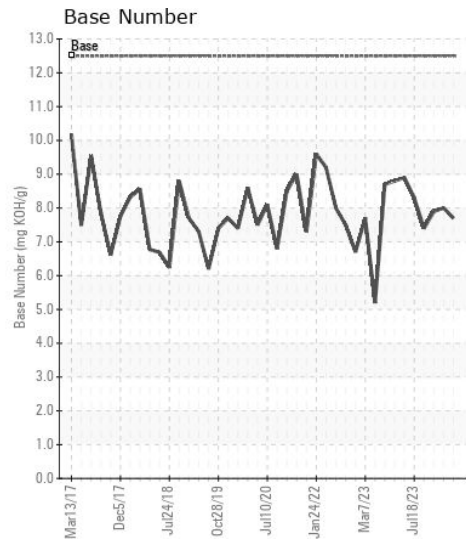
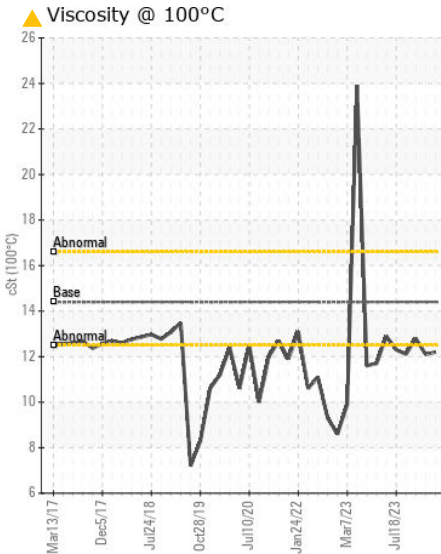
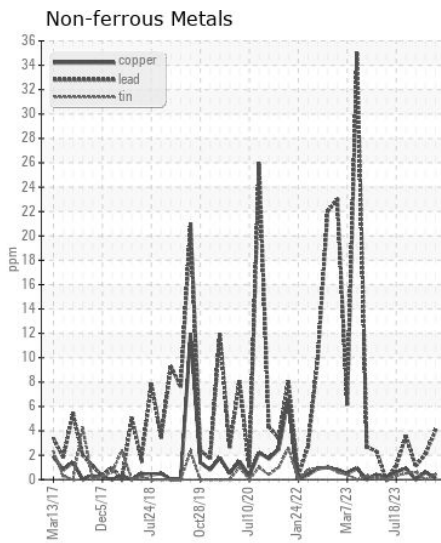
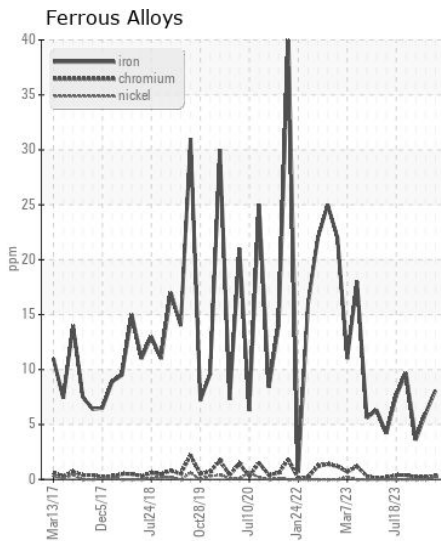
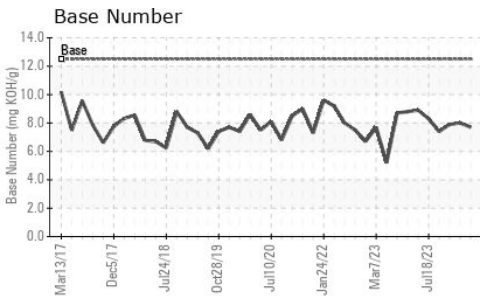
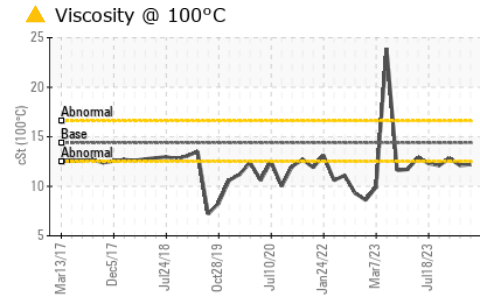
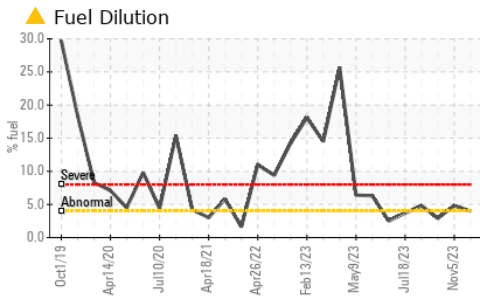
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >20 | 4 | 3 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | <1 | 3 |
| Fuel | % | ASTM D3524 | >4.0 | ▲ 4.0 | ▲ 4.8 | ▲ 2.9 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.3 | 0.2 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.2 | 9.1 | 7.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.3 | 19.3 | 18.0 |
| 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 | >0.1 | NEG | NEG | NEG |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

| | | | | | | |
|------------------|----------|-------------|------|---------------|--------|------|
| Sodium | ppm | ASTM D5185m | >75 | 7 | 3 | 2 |
| Boron | ppm | ASTM D5185m | 151 | 85 | 93 | 110 |
| Barium | ppm | ASTM D5185m | 0.4 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 250 | 30 | 26 | 28 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | 686 | 555 | 557 |
| Calcium | ppm | ASTM D5185m | 2046 | 1858 | 1533 | 1571 |
| Phosphorus | ppm | ASTM D5185m | 1043 | 801 | 679 | 732 |
| Zinc | ppm | ASTM D5185m | 943 | 1006 | 829 | 872 |
| Sulfur | ppm | ASTM D5185m | 5012 | 3471 | 3095 | 3078 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.5 | 15.5 | 13.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 12.5 | 7.7 | 8.0 | 7.9 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | ▲ 12.2 | ▲ 12.1 | 12.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0057344 **Received** : 29 Feb 2024
Lab Number : 06104142 **Tested** : 04 Mar 2024
Unique Number : 10902372 **Diagnosed** : 04 Mar 2024 - Wes Davis
Test Package : MAR 2 (Additional Tests: PercentFuel)

AMERICAN RIVER TRANSPORTATION CO
 8400 RIVER RD, PO BOX 656
 WESTWEGO, LA
 US 70094-2317
 Contact: KEVIN CHIASSON
 kevin.chiasson@adm.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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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