TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## PONTIAC 290CTC
Component
## Front Gasoline Engine
Fluid
## TRC PRO-SPEC MULTI VISC 5W30 (5 LTR)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

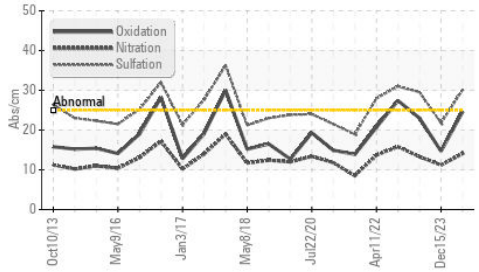
There is no indication of any contamination in the oil.

## FLUID CONDITION

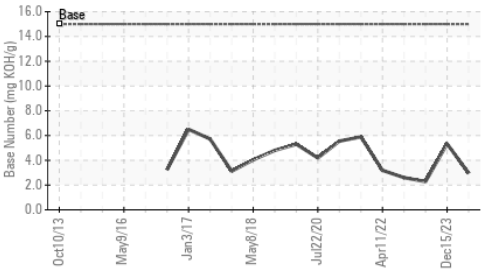
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR02633734 | TR02606537 | TR02568224 |
| Sample Date | | Client Info | | 29 Apr 2024 | 15 Dec 2023 | 26 Jun 2023 |
| Machine Age | kms | Client Info | | 350002 | 340748 | 333852 |
| Oil Age | kms | Client Info | | 15685 | 6431 | 9956 |
| Filter Age | kms | Client Info | | 15685 | 6431 | 9956 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185(m) | >150 | 30 | 10 | 24 |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >40 | 4 | 3 | 4 |
| Lead | ppm | ASTM D5185(m) | >50 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >155 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silicon | ppm | ASTM D5185(m) | >30 | 32 | 20 | ▲ 34 |
| Potassium | ppm | ASTM D5185(m) | >20 | 5 | 0 | 2 |
| Fuel | | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | | 0 | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 14.1 | 11.2 | 13.3 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 30.1 | 21.8 | 29.5 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185(m) | >400 | 10 | 4 | 6 |
| Boron | ppm | ASTM D5185(m) | | 30 | 67 | 31 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 95 | 91 | 208 |
| Manganese | ppm | ASTM D5185(m) | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | 512 | 487 | 506 |
| Calcium | ppm | ASTM D5185(m) | 4200 | 1245 | 1195 | 1231 |
| Phosphorus | ppm | ASTM D5185(m) | 800 | 648 | 680 | 720 |
| Zinc | ppm | ASTM D5185(m) | 800 | 725 | 701 | 750 |
| Sulfur | ppm | ASTM D5185(m) | | 2365 | 2614 | 2716 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 24.6 | 14.7 | 23.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 15 | 2.96 | 5.33 | 2.28 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 9.98 | 9.3 | 9.3 | 9.3 |

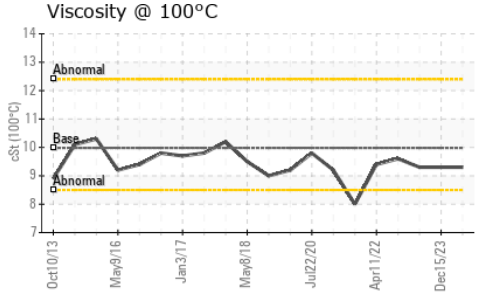
FT-IR (Direct Trend)



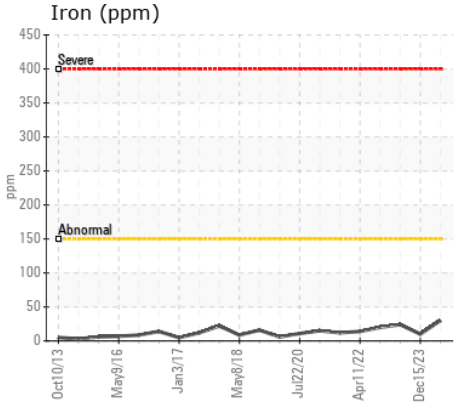

Base Number



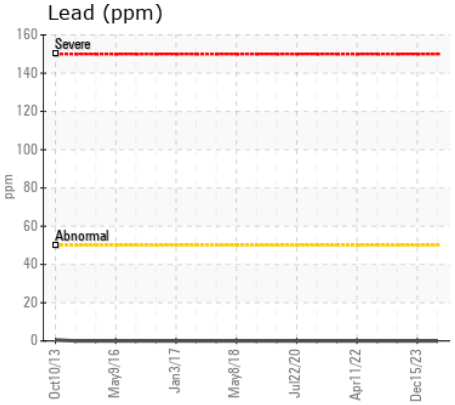

Viscosity @ 100°C



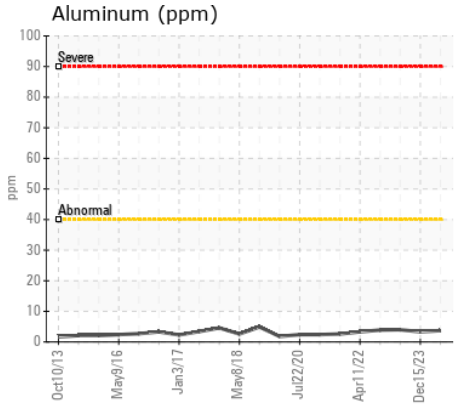

Iron (ppm)



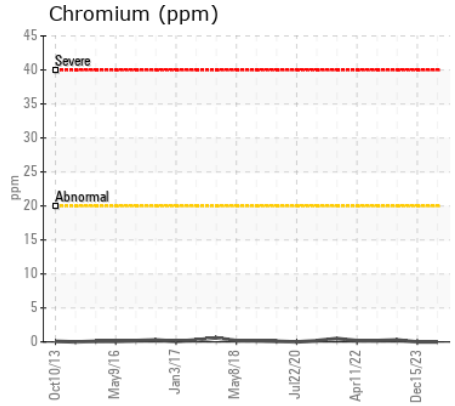

Lead (ppm)



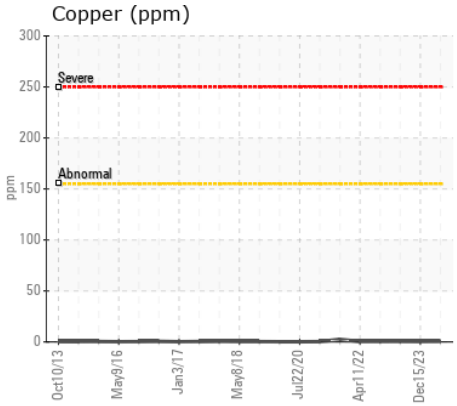

Aluminum (ppm)



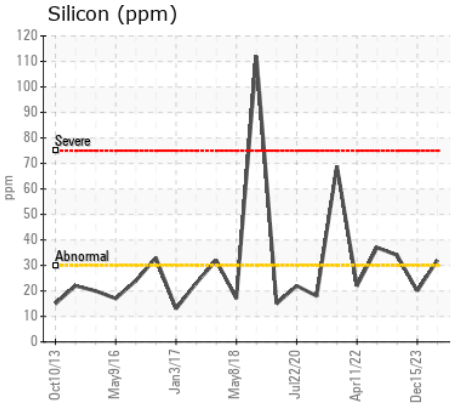

Chromium (ppm)



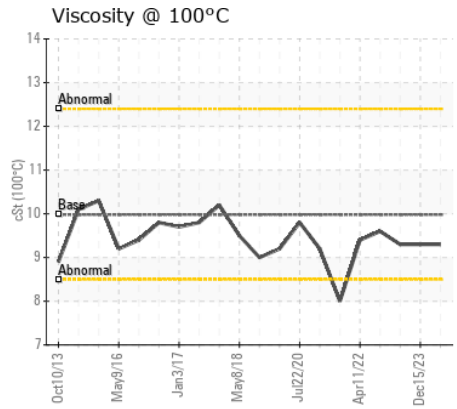

Copper (ppm)



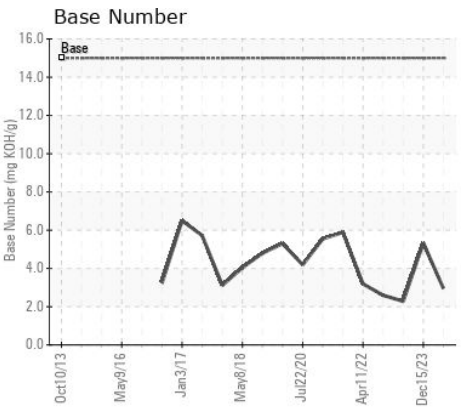

Silicon (ppm)




Viscosity @ 100°C




Base Number




ISO 17025:2017 Accredited Laboratory

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : TR02633734 | **Received** | : 06 May 2024 |
| **Lab Number** | : 02633734 | **Tested** | : 07 May 2024 |
| **Unique Number** | : 5774887 | **Diagnosed** | : 07 May 2024 - Kevin Marson |
| **Test Package** | : MOB 2 | | |

*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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