TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## CHEVROLET 3500HD T3 (S/N 1GCHK84609F139100)
Component
## Diesel Engine
Fluid
## TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (10 QTS)

## RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

## WEAR

Metal levels are typical for a new component breaking in.

## CONTAMINATION

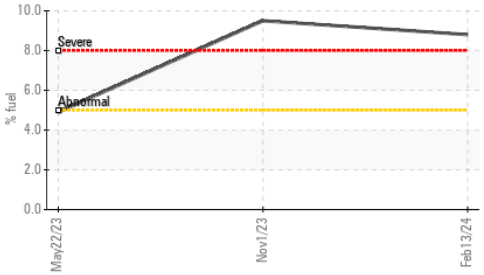
There is a high amount of fuel present in the oil.

## FLUID CONDITION

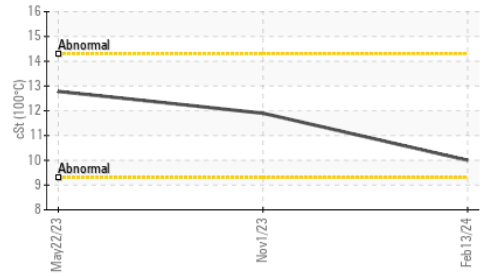
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR06098659 | TR06011666 | TR05882857 |
| Sample Date | | Client Info | | 13 Feb 2024 | 01 Nov 2023 | 22 May 2023 |
| Machine Age | mls | Client Info | | 58001 | 56846 | 55091 |
| Oil Age | mls | Client Info | | 1155 | 1755 | 4139 |
| Filter Age | mls | Client Info | | 1155 | 1755 | 4139 |
| Oil Changed | | Client Info | | Not Changd | Changed | Changed |
| Filter Changed | | Client Info | | Not Changd | Changed | Changed |
| Sample Status | | | | SEVERE | SEVERE | ABNORMAL |
| Iron | ppm | ASTM D5185m | >100 | 7 | 4 | 7 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | <1 | <1 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 10 | 6 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 0 | 1 |
| Fuel | % | ASTM D3524 | >5 | ⬢ 8.8 | ⬢ 9.5 | ▲ 4.9 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.9 | 8.9 | 7.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.2 | 19.2 | 20.1 |
| 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 |
| Sodium | ppm | ASTM D5185m | | 2 | 2 | 0 |
| Boron | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 8 | 52 | 57 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 145 | 848 | 835 |
| Calcium | ppm | ASTM D5185m | | 2970 | 922 | 1055 |
| Phosphorus | ppm | ASTM D5185m | | 727 | 931 | 969 |
| Zinc | ppm | ASTM D5185m | | 867 | 1095 | 1122 |
| Sulfur | ppm | ASTM D5185m | | 3003 | 2689 | 2773 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 12.6 | 16.4 | 17.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 12.49 | 8.53 | 8.4 |
| Visc @ 100°C | cSt | ASTM D445 | | ▲ 10.0 | ▲ 11.9 | ▲ 12.78 |

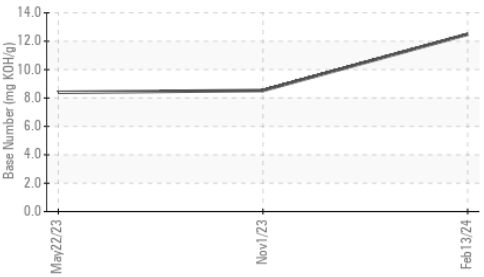
Fuel Dilution



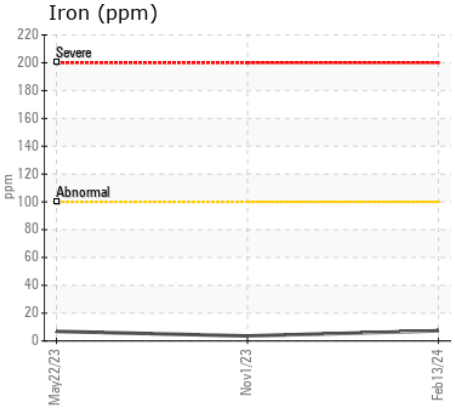

Viscosity @ 100°C



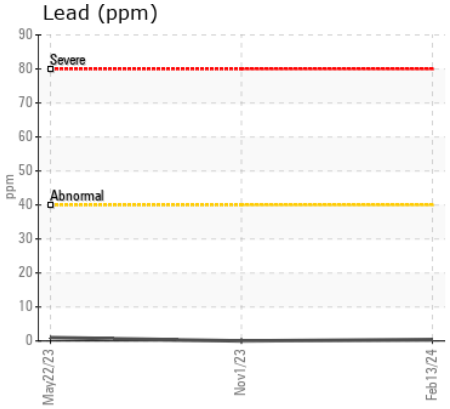

Base Number



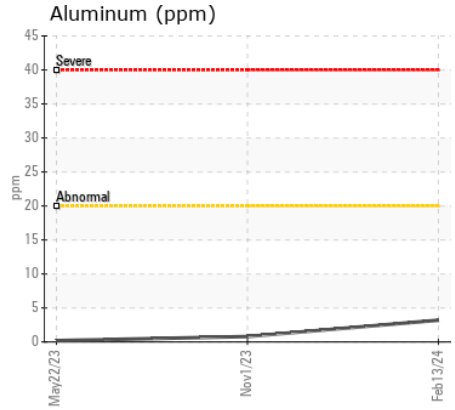

Iron (ppm)



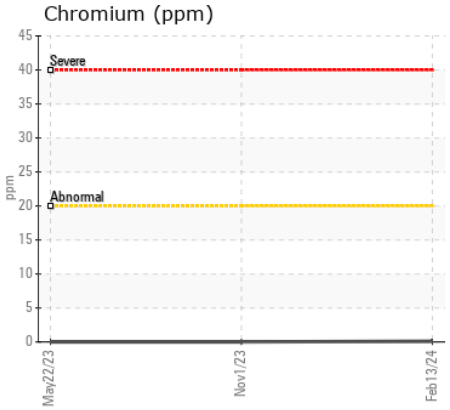

Lead (ppm)



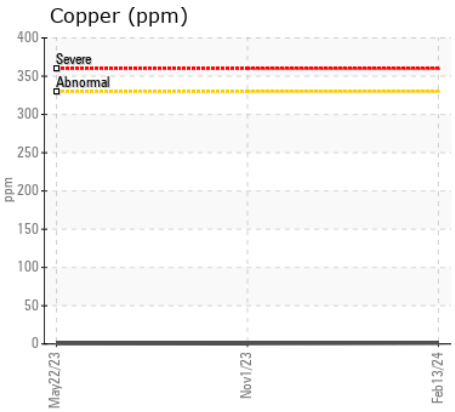

Aluminum (ppm)



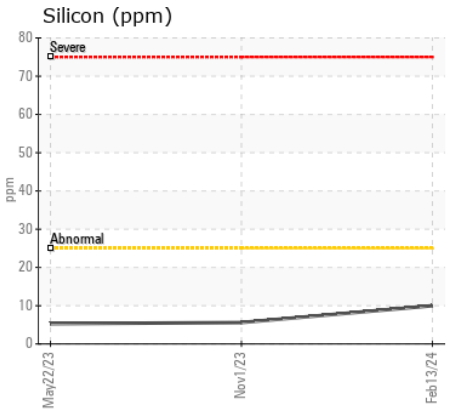

Chromium (ppm)



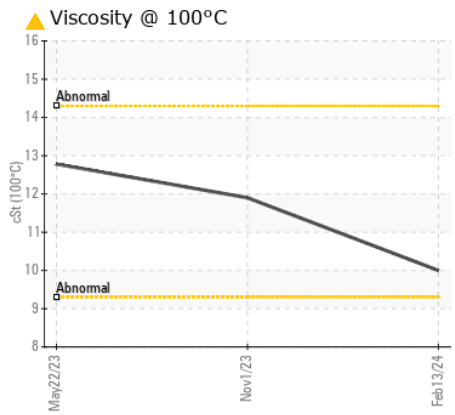

Copper (ppm)



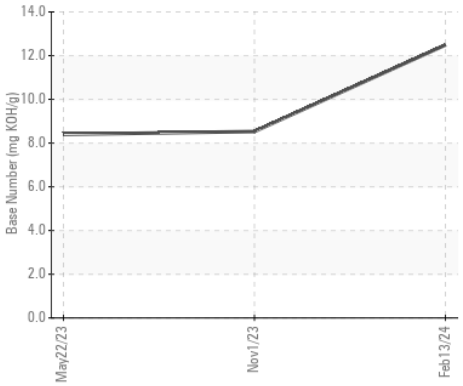

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR06098659
**Lab Number** : 06098659
**Unique Number** : 10896889
**Test Package** : MOB 2 ( Additional Tests: PercentFuel )

**Received** : 23 Feb 2024
**Tested** : 27 Feb 2024
**Diagnosed** : 27 Feb 2024 - Sean Felton

**LEBANON MUNICIPAL AIRPORT**
5 AIRPARK RD, SUITE 1
WEST LEBANON, NH
US 03784
Contact: SCOTT BURRELL

*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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