



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id
2004 CHEVROLET 82

Component
Front Gasoline Engine

Fluid
TRC MOLY XL PRO-SPEC SYN BLEND 15W40 (5 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. 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.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | TR06155283 | TR06108221 | TR04436121 |
| Sample Date | | Client Info | | 07 Mar 2024 | 20 Feb 2024 | 22 Feb 2018 |
| Machine Age | mls | Client Info | | 246539 | 206922 | 192226 |
| Oil Age | mls | Client Info | | 4319 | 12686 | 5276 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | SEVERE | SEVERE | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 26 | 88 | 9 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 7 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 1 | 2 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >40 | 10 | 10 | 4 |
| Lead | ppm | ASTM D5185m | >50 | 14 | ▲ 65 | 2 |
| Copper | ppm | ASTM D5185m | >155 | 18 | ▲ 10 | 8 |
| Tin | ppm | ASTM D5185m | >10 | 1 | ▲ 8 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

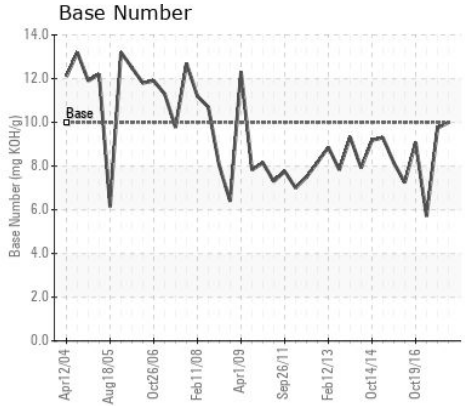
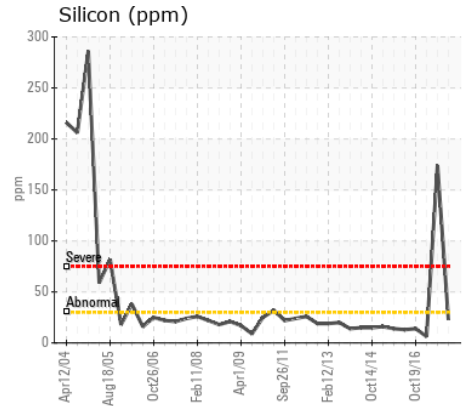
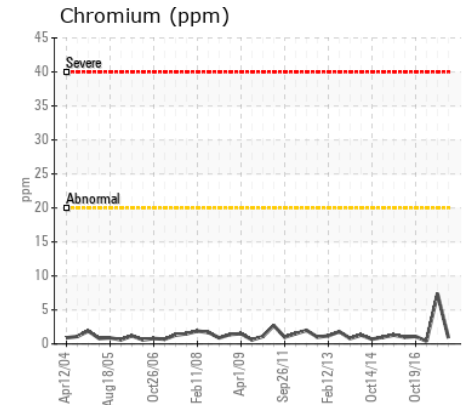
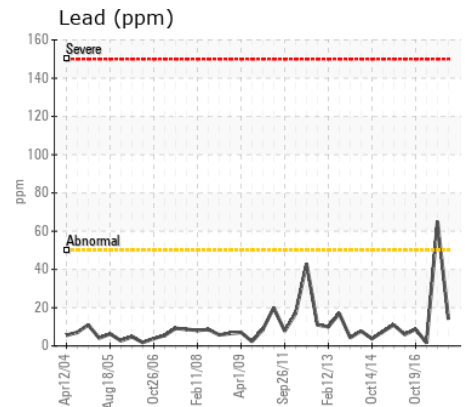
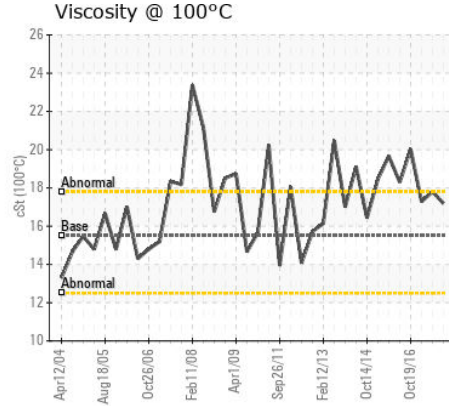
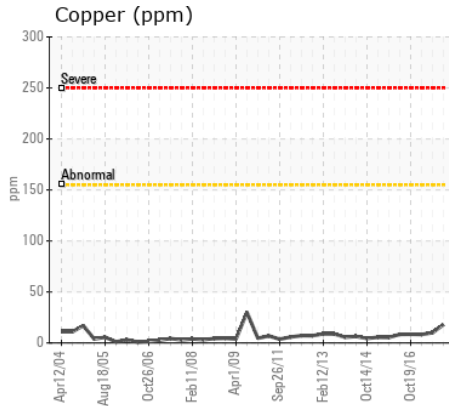
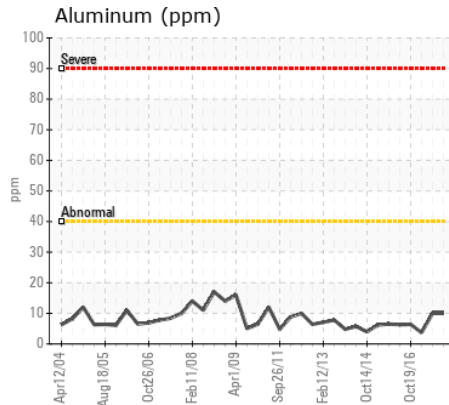
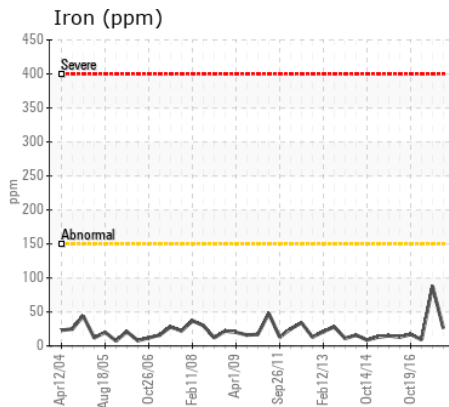
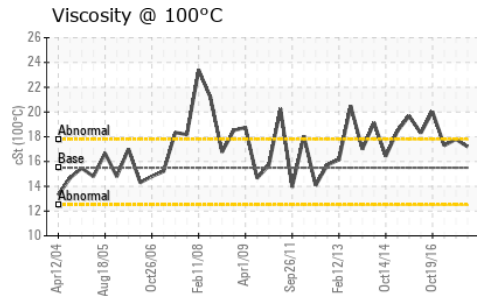
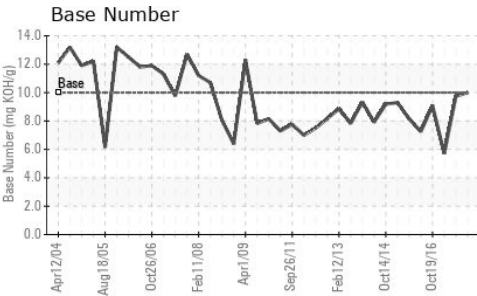
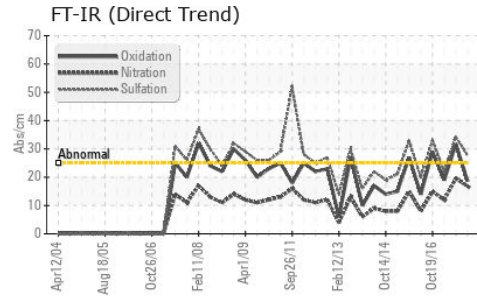
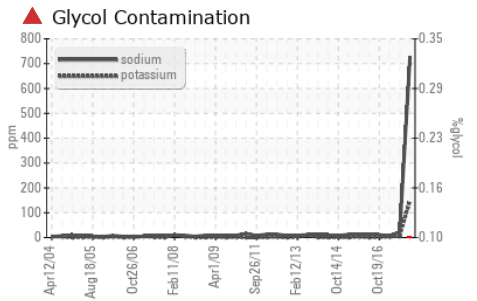
Sodium and/or potassium levels are high. Test for glycol is positive.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >30 | 23 | ▲ 174 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | ▲ 148 | 6 | 3 |
| Fuel | | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | *ASTM D2982 | | ▲ 0.10 | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 16.8 | 19.6 | 12. |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 27.7 | 34.2 | 22. |
| 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 oil is no longer serviceable due to the presence of contaminants.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|-------|
| Sodium | ppm | ASTM D5185m | >400 | ▲ 725 | 21 | 7 |
| Boron | ppm | ASTM D5185m | | 29 | 2 | 2 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 130 | 124 | 173 |
| Manganese | ppm | ASTM D5185m | | 2 | 2 | <1 |
| Magnesium | ppm | ASTM D5185m | | 117 | 60 | 817 |
| Calcium | ppm | ASTM D5185m | 2300 | 4637 | 3867 | 1518 |
| Phosphorus | ppm | ASTM D5185m | | 1068 | 869 | 827 |
| Zinc | ppm | ASTM D5185m | 1200 | 1349 | 1020 | 1193 |
| Sulfur | ppm | ASTM D5185m | | 5526 | 3918 | 3246 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.6 | 31.6 | 19. |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 10.00 | 9.74 | 5.71 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 17.2 | 17.8 | 17.29 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06155283
Lab Number : 06155283
Unique Number : 10990706
Test Package : MOB 2 (Additional Tests: GLYCOL)

Received : 19 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 24 Apr 2024 - Jonathan Hester

COLORADO RIVER UNION HS
 2251 HWY 95
 BULLHEAD CITY, AZ
 US 86442

Contact: DENNIS SERCU
 DSERCU@CRSK12.ORG
 T: (928)788-1307
 F: (928)763-9881

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)