TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## INTERNATIONAL 55E
Component
## Diesel Engine
Fluid
## TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (--- QTS)

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

Metal levels are typical for a new component breaking in.

## CONTAMINATION

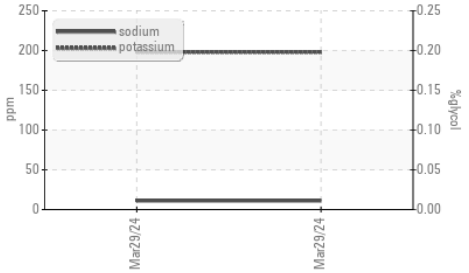
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

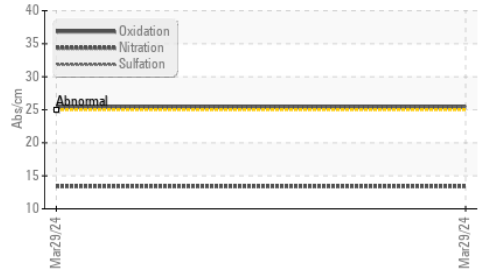
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR06150618 | --- | --- |
| Sample Date | | Client Info | | 29 Mar 2024 | --- | --- |
| Machine Age | mls | Client Info | | 17447 | --- | --- |
| Oil Age | mls | Client Info | | 0 | --- | --- |
| Filter Age | mls | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Not Changd | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |
| Iron | ppm | ASTM D5185m | >90 | 150 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 7 | --- | --- |
| Nickel | ppm | ASTM D5185m | >2 | 2 | --- | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 60 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 42 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 2 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Silicon | ppm | ASTM D5185m | >25 | 46 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 198 | --- | --- |
| Fuel | | WC Method | >3.0 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | % | *ASTM D2982 | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >6 | 1.2 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 13.4 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 25.4 | --- | --- |
| Silt | scalar | *Visual | NONE | NONE | --- | --- |
| Debris | scalar | *Visual | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | --- | --- |
| Sodium | ppm | ASTM D5185m | | 11 | --- | --- |
| Boron | ppm | ASTM D5185m | | 27 | --- | --- |
| Barium | ppm | ASTM D5185m | | 7 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 52 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 8 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 839 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 1259 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 751 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 946 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 2481 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 25.4 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 6.72 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 11.9 | --- | --- |

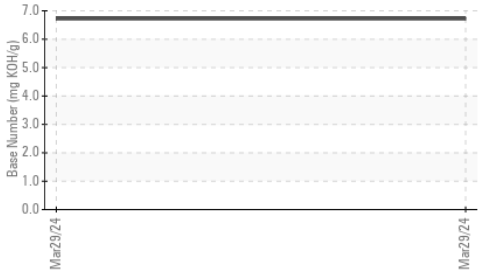
Glycol Contamination



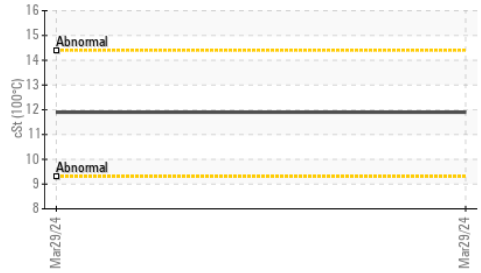

FT-IR (Direct Trend)



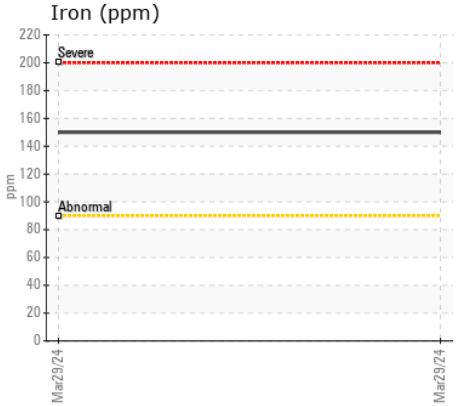

Base Number



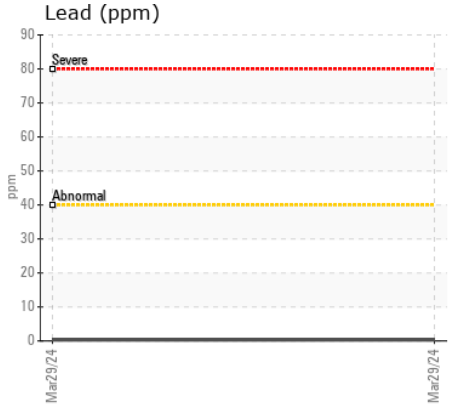

Viscosity @ 100°C



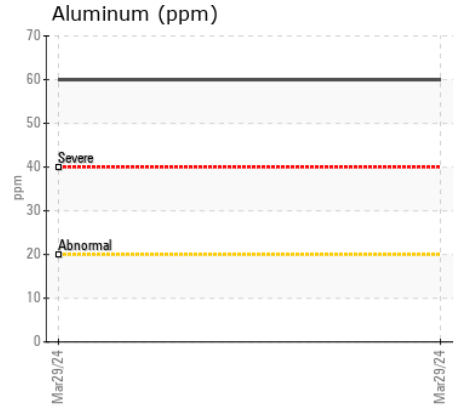

Iron (ppm)



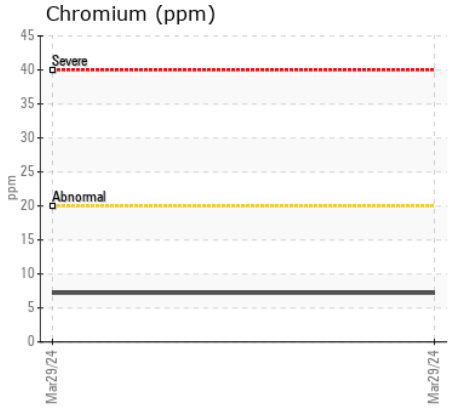

Lead (ppm)



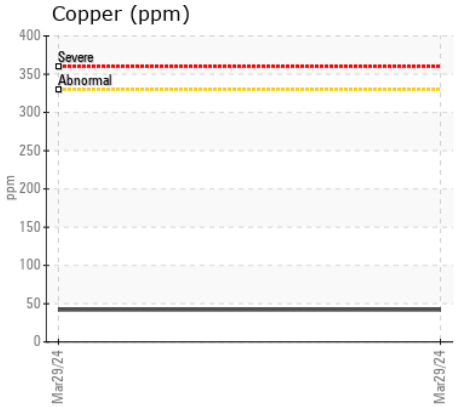

Aluminum (ppm)



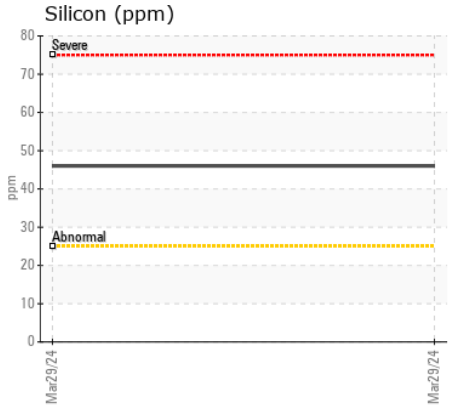

Chromium (ppm)



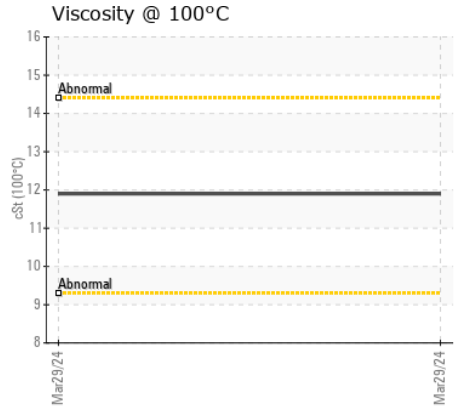

Copper (ppm)



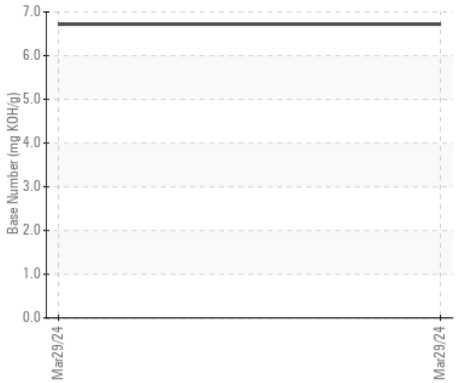

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR06150618
**Lab Number** : 06150618
**Unique Number** : 10980696
**Test Package** : MOB 2 ( Additional Tests: Glycol )

**Received** : 16 Apr 2024
**Tested** : 17 Apr 2024
**Diagnosed** : 18 Apr 2024 - Sean Felton

*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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