TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## CASE IH 255
Component
## Diesel Engine
Fluid
## TRC MOLY XL PRO-SPEC IV 15W40 (22 QTS)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

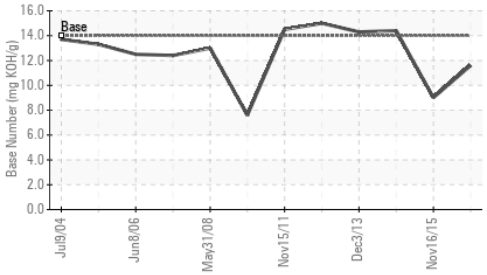
There is no indication of any contamination in the component.

## FLUID CONDITION

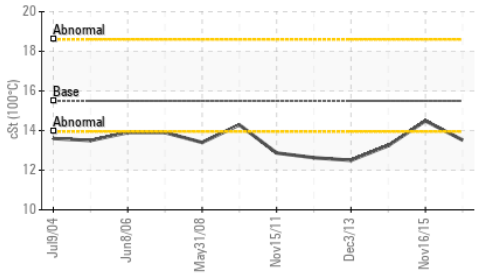
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR04139951 | TR03895199 | TR03642195 |
| Sample Date | | Client Info | | 17 Nov 2016 | 16 Nov 2015 | 13 Nov 2014 |
| Machine Age | hrs | Client Info | | 3777 | 3473 | 3155 |
| Oil Age | hrs | Client Info | | 304 | 318 | 292 |
| Filter Age | hrs | Client Info | | 304 | 318 | 292 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >100 | 24 | 29 | 26 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 2 | 4 |
| Lead | ppm | ASTM D5185m | >40 | 1 | 2 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 3 | 3 | 2 |
| Tin | ppm | ASTM D5185m | >15 | 10 | <1 | 0 |
| 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 | 3 | 7 | ▲ 39 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 3 | 0 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | | 7. | 5. | 7. |
| Sulfation | Abs/.1mm | *ASTM D7415 | | 16. | 11. | 18. |
| 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 | | 6 | 4 | 3 |
| Boron | ppm | ASTM D5185m | | 2 | 7 | 134 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 188 | 199 | 172 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 850 | 1081 | 625 |
| Calcium | ppm | ASTM D5185m | 1300 | 1777 | 1599 | 3648 |
| Phosphorus | ppm | ASTM D5185m | | 1020 | 1164 | 1005 |
| Zinc | ppm | ASTM D5185m | 1300 | 1277 | 1380 | 1196 |
| Sulfur | ppm | ASTM D5185m | | 3656 | 3732 | 3577 |
| Oxidation | Abs/.1mm | *ASTM D7414 | | 12. | 10. | 12. |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 14 | 11.6 | 9.01 | 14.4 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 13.52 | 14.49 | 13.24 |

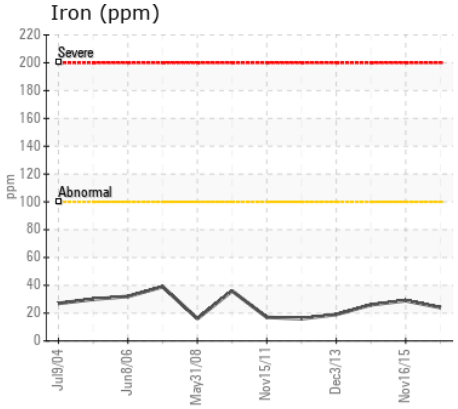
Base Number



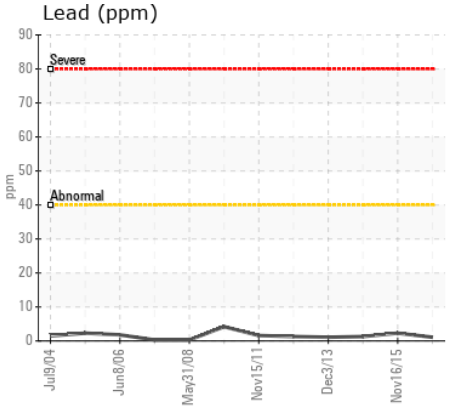

Viscosity @ 100°C



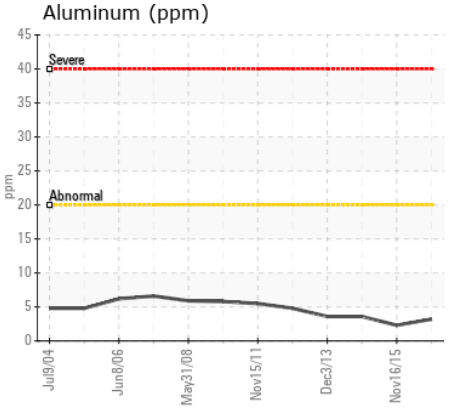

Iron (ppm)



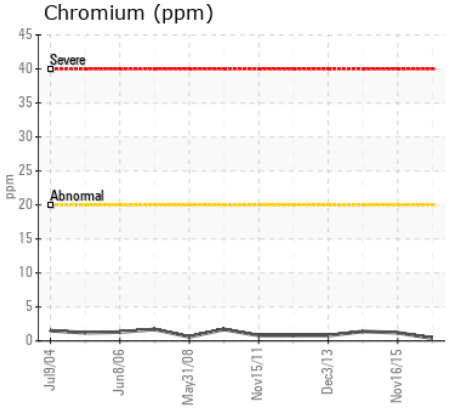

Lead (ppm)



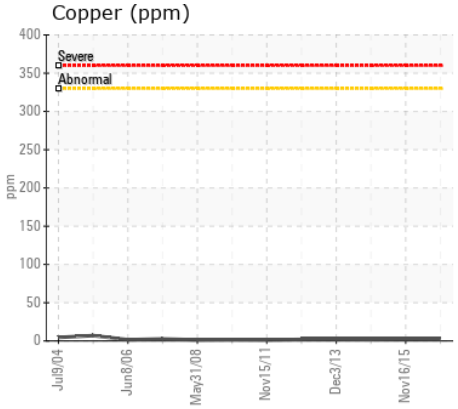

Aluminum (ppm)



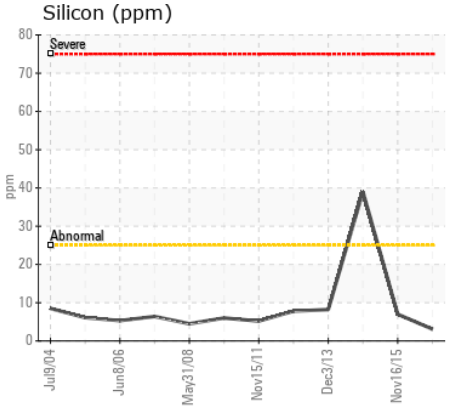

Chromium (ppm)



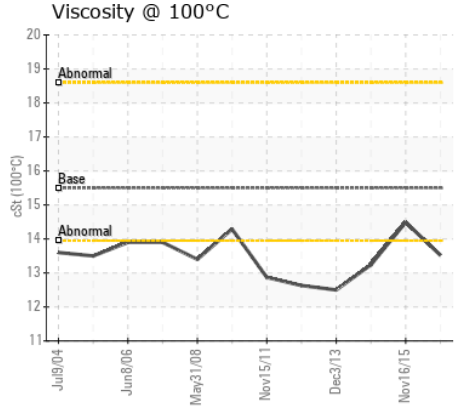

Copper (ppm)



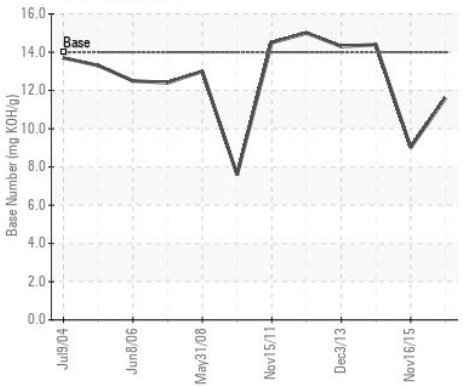

Silicon (ppm)




Viscosity @ 100°C




Base Number





**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR04139951
**Lab Number** : 04139951
**Unique Number** : 7663337
**Test Package** : MOB 2

**Received** : 11 Jan 2017
**Tested** : 12 Jan 2017
**Diagnosed** : 12 Jan 2017 - Wes Davis

Certificate L2367


*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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