



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id
BLUE BIRD 53E
 Component
Diesel Engine
 Fluid
TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|----------|
| Sample Number | | Client Info | | TR06218422 | TR05668936 | --- |
| Sample Date | | Client Info | | 17 Apr 2024 | 29 Sep 2022 | --- |
| Machine Age | mls | Client Info | | 38220 | 16494 | --- |
| Oil Age | mls | Client Info | | 0 | 0 | --- |
| Filter Age | mls | Client Info | | 0 | 0 | --- |
| Oil Changed | | Client Info | | Not Changd | Not Changd | --- |
| Filter Changed | | Client Info | | Not Changd | Not Changd | --- |
| Sample Status | | | | NORMAL | ABNORMAL | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|-------|-----|
| Iron | ppm | ASTM D5185m | >130 | 235 | ▲ 320 | --- |
| Chromium | ppm | ASTM D5185m | >10 | 9 | ▲ 15 | --- |
| Nickel | ppm | ASTM D5185m | >4 | 3 | 2 | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 14 | ● 24 | --- |
| Lead | ppm | ASTM D5185m | >20 | 2 | <1 | --- |
| Copper | ppm | ASTM D5185m | >125 | 6 | 28 | --- |
| Tin | ppm | ASTM D5185m | >4 | 1 | <1 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

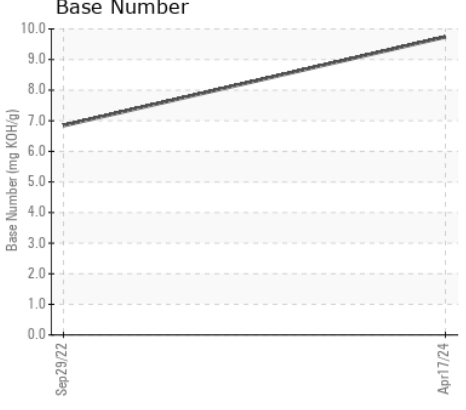
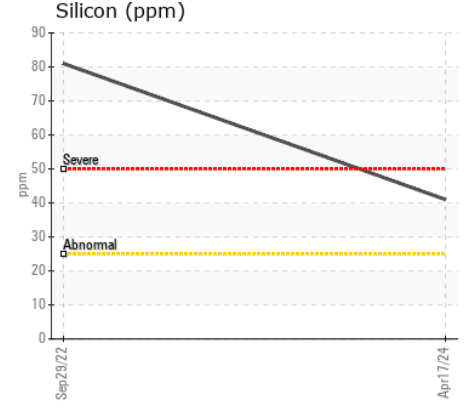
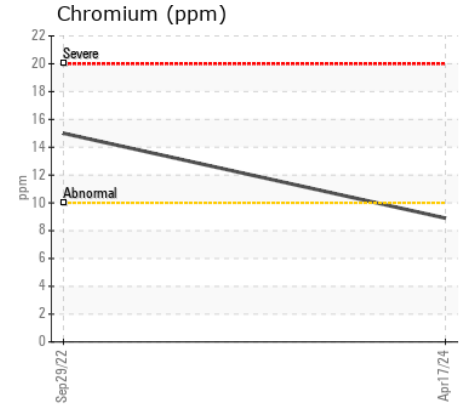
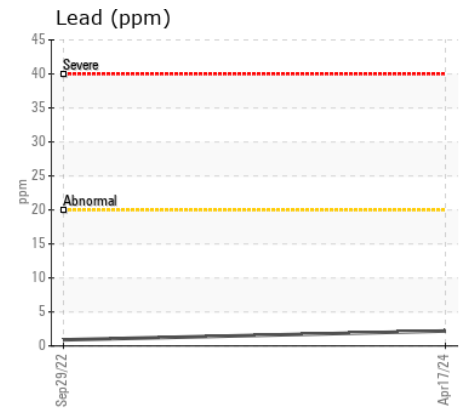
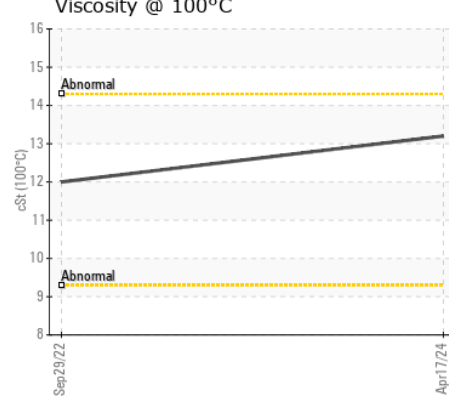
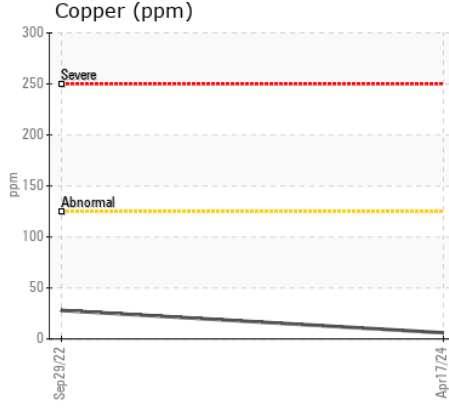
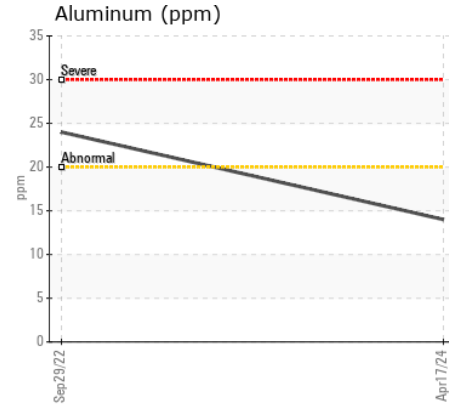
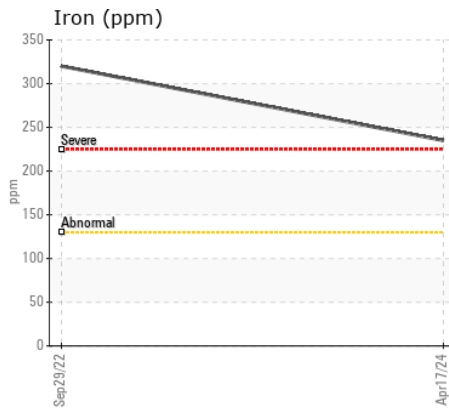
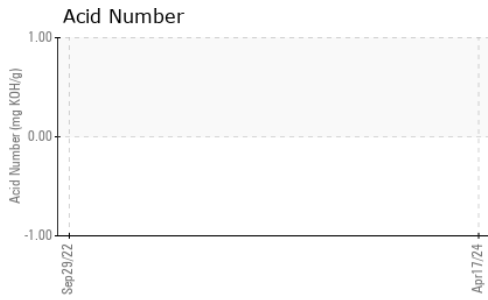
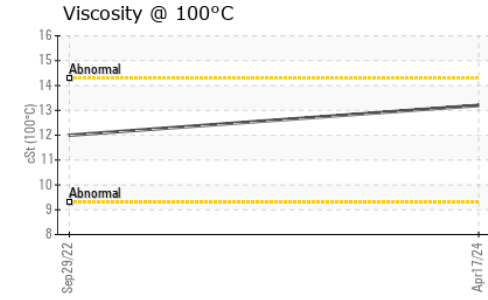
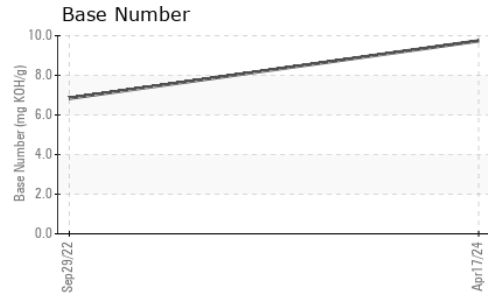
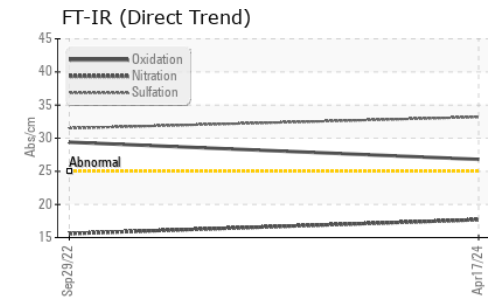
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-------|-----|
| Silicon | ppm | ASTM D5185m | >25 | 41 | ▲ 81 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 9 | 6 | --- |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | --- |
| Water | | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >6 | 2.4 | 2.1 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 17.7 | 15.6 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 33.2 | 31.5 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | --- |

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.

| | | | | | | |
|------------------|----------|-------------|-----|------|------|-----|
| Sodium | ppm | ASTM D5185m | | 11 | 17 | --- |
| Boron | ppm | ASTM D5185m | | 10 | 26 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 7 | 40 | --- |
| Manganese | ppm | ASTM D5185m | | 3 | 10 | --- |
| Magnesium | ppm | ASTM D5185m | | 71 | 508 | --- |
| Calcium | ppm | ASTM D5185m | | 4469 | 1863 | --- |
| Phosphorus | ppm | ASTM D5185m | | 1008 | 828 | --- |
| Zinc | ppm | ASTM D5185m | | 1192 | 1081 | --- |
| Sulfur | ppm | ASTM D5185m | | 4809 | 2924 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 26.8 | 29.4 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 9.74 | 6.84 | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 13.2 | 12.0 | --- |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06218422 **Received** : 24 Jun 2024
Lab Number : 06218422 **Tested** : 25 Jun 2024
Unique Number : 11096619 **Diagnosed** : 26 Jun 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: TAN Man)

WELD COUNTY SCHOOL DISTRICT
 110 N 8TH ST
 WINDSOR, CO
 US 80550
 Contact: JAMES WEST
 james@sellsoil.com
 T: (720)425-9923
 F: x:

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)