



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id

73

Component

Front Differential

Fluid

TRC MOLY ULTRA-TEC GEAR OIL 85W140 (--- GAL)

RECOMMENDATION

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

| Test           | UOM | Method      | Limit/Abn | Current     | History1    | History2    |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number  |     | Client Info |           | TR0001306   | TR0001218   | TR0000848   |
| Sample Date    |     | Client Info |           | 09 Jan 2024 | 03 Oct 2023 | 16 May 2023 |
| Machine Age    | hrs | Client Info |           | 19809       | 19660       | 19124       |
| Oil Age        | hrs | Client Info |           | 19809       | 19660       | 19124       |
| Filter Age     | hrs | Client Info |           | 0           | 19660       | 0           |
| Oil Changed    |     | Client Info |           | Not Changd  | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | N/A         | Not Changd  | Not Changd  |
| Sample Status  |     |             |           | ABNORMAL    | ABNORMAL    | NORMAL      |

WEAR

All component wear rates are normal.

|              |        |             |      |      |      |      |
|--------------|--------|-------------|------|------|------|------|
| Iron         | ppm    | ASTM D5185m | >500 | 11   | 10   | 21   |
| Chromium     | ppm    | ASTM D5185m | >10  | 0    | <1   | 0    |
| Nickel       | ppm    | ASTM D5185m | >10  | 0    | <1   | 0    |
| Titanium     | ppm    | ASTM D5185m |      | 0    | 0    | 0    |
| Silver       | ppm    | ASTM D5185m |      | 0    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | 1    | 3    | 3    |
| Lead         | ppm    | ASTM D5185m | >25  | 2    | 2    | 6    |
| Copper       | ppm    | ASTM D5185m | >100 | 5    | 5    | 18   |
| Tin          | ppm    | ASTM D5185m | >10  | <1   | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | NONE | NONE | NONE |

CONTAMINATION

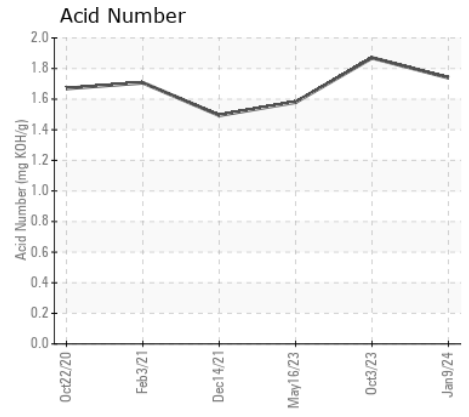
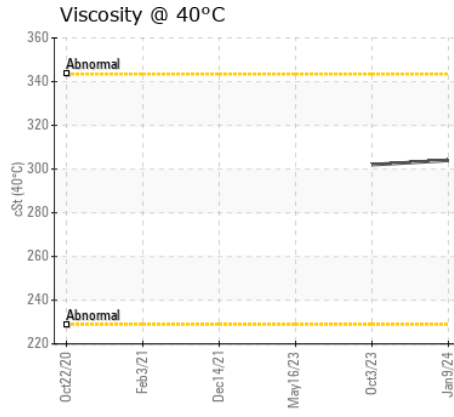
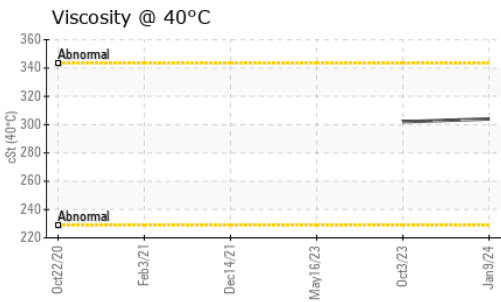
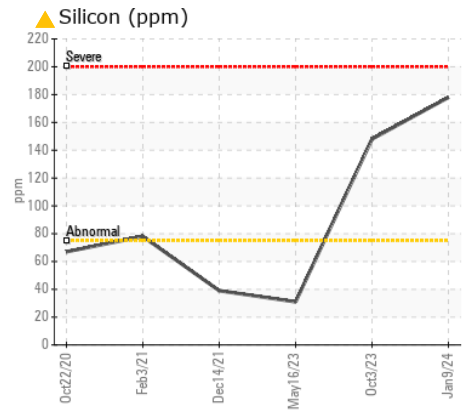
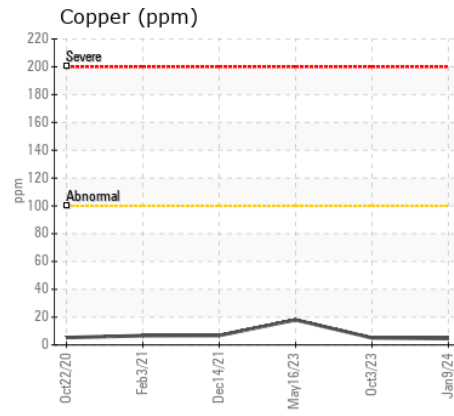
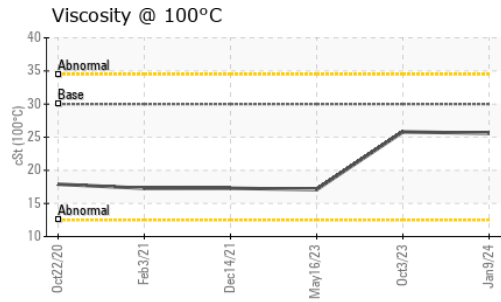
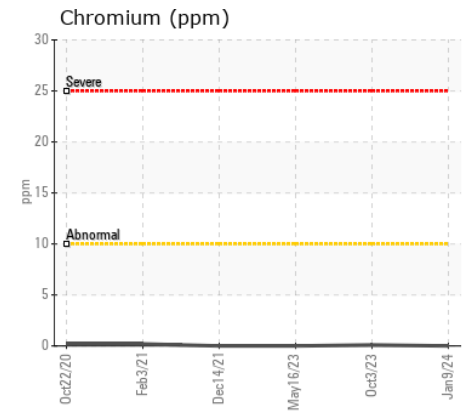
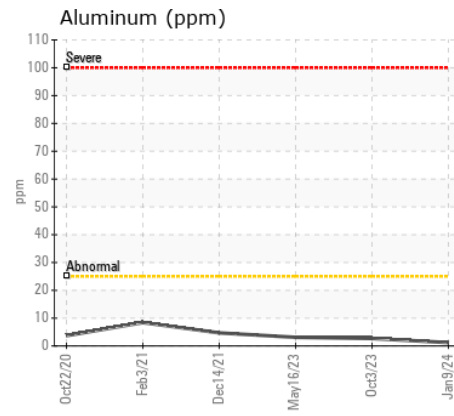
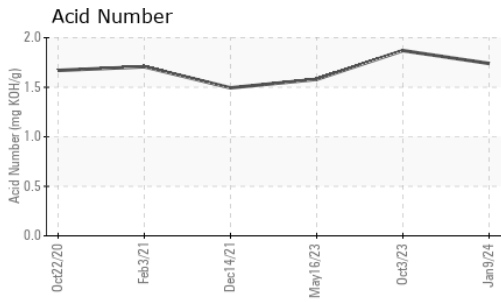
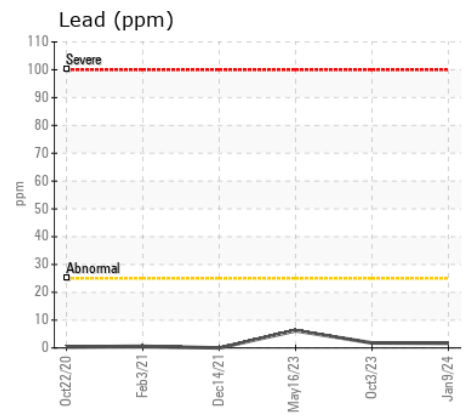
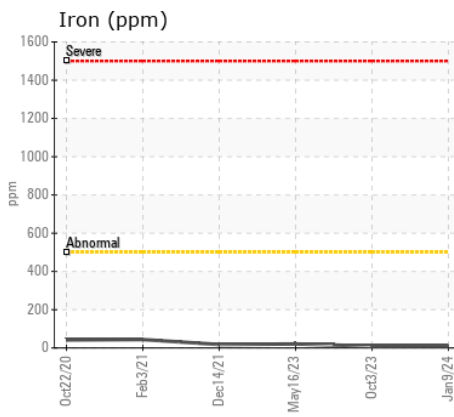
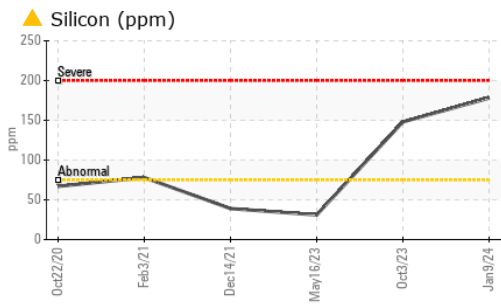
Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material.

|                  |        |             |       |       |       |       |
|------------------|--------|-------------|-------|-------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >75   | ▲ 178 | ▲ 148 | 31    |
| Potassium        | ppm    | ASTM D5185m | >20   | 1     | 1     | 1     |
| Water            |        | WC Method   | >.2   | NEG   | NEG   | NEG   |
| Silt             | scalar | *Visual     | NONE  | NONE  | MODER | 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     | >.2   | NEG   | NEG   | NEG   |

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

|                      |          |             |     |       |       |       |
|----------------------|----------|-------------|-----|-------|-------|-------|
| Sodium               | ppm      | ASTM D5185m |     | 1     | 2     | 5     |
| Boron                | ppm      | ASTM D5185m |     | 303   | 302   | 263   |
| Barium               | ppm      | ASTM D5185m |     | 0     | 0     | 0     |
| Molybdenum           | ppm      | ASTM D5185m |     | 0     | <1    | <1    |
| Manganese            | ppm      | ASTM D5185m |     | <1    | <1    | 1     |
| Magnesium            | ppm      | ASTM D5185m |     | 0     | <1    | 3     |
| Calcium              | ppm      | ASTM D5185m |     | 29    | 29    | 35    |
| Phosphorus           | ppm      | ASTM D5185m |     | 1230  | 1094  | 1013  |
| Zinc                 | ppm      | ASTM D5185m |     | <1    | 7     | 7     |
| Sulfur               | ppm      | ASTM D5185m |     | 22838 | 24503 | 22918 |
| Acid Number (AN)     | mg KOH/g | ASTM D8045  |     | 1.74  | 1.87  | 1.58  |
| Visc @ 40°C          | cSt      | ASTM D445   |     | 304   | 302   | ---   |
| Visc @ 100°C         | cSt      | ASTM D445   | 30  | 25.6  | 25.8  | 17.1  |
| Viscosity Index (VI) | Scale    | ASTM D2270  | 105 | 109   | 111   | ---   |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR0001306 **Received** : 12 Jan 2024  
**Lab Number** : 06060377 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831759 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI )

**S S CONCRETE MATERIALS LLC**  
P.O. BOX 23283  
BULLHEAD CITY, AZ  
US 86439  
Contact: MARK OPHEIM

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)

T:  
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