



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>ABNORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b>   |
| FLUID CONDITION | <b>NORMAL</b>   |

Machine Id

**76**

Component

**Rear Differential**

Fluid

**TRC MOLY ULTRA-TEC GEAR OIL 85W140 (10 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 |           | <b>TR0001338</b>   | TR0001354   | TR0001267   |
| Sample Date    |     | Client Info |           | <b>03 May 2024</b> | 18 Jan 2024 | 06 Nov 2023 |
| Machine Age    | hrs | Client Info |           | <b>24753</b>       | 24114       | 23801       |
| Oil Age        | hrs | Client Info |           | <b>24753</b>       | 24114       | 23801       |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

## WEAR

Gear wear is indicated. All other component wear rates are normal.

|              |        |             |      |              |       |       |
|--------------|--------|-------------|------|--------------|-------|-------|
| Iron         | ppm    | ASTM D5185m | >500 | <b>▲ 571</b> | ▲ 557 | ▲ 586 |
| Chromium     | ppm    | ASTM D5185m | >10  | <b>2</b>     | 2     | 2     |
| Nickel       | ppm    | ASTM D5185m | >10  | <b>&lt;1</b> | 1     | <1    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1    | 0     |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>     | 0     | 0     |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>10</b>    | 8     | 8     |
| Lead         | ppm    | ASTM D5185m | >25  | <b>0</b>     | 0     | 0     |
| Copper       | ppm    | ASTM D5185m | >100 | <b>&lt;1</b> | 5     | 2     |
| Tin          | ppm    | ASTM D5185m | >10  | <b>0</b>     | 0     | 0     |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0     | 0     |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE  | NONE  |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE  | NONE  |

## CONTAMINATION

There is no indication of any contamination in the oil.

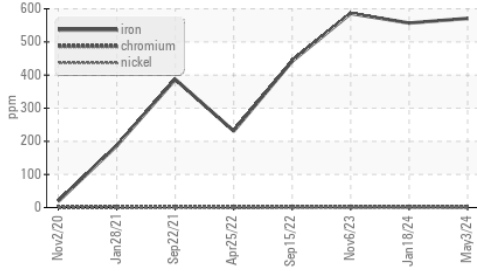
|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >75   | <b>71</b>    | ▲ 76  | 63    |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>8</b>     | 8     | 7     |
| Water            | %      | ASTM D6304  | >.2   | <b>0.141</b> | ---   | ---   |
| ppm Water        | ppm    | ASTM D6304  | >2000 | <b>1410</b>  | ---   | ---   |
| Silt             | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar | *Visual     | >.2   | <b>0.2%</b>  | NEG   | NEG   |

## FLUID CONDITION

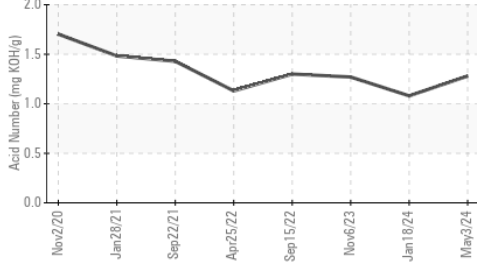
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

|                      |          |             |     |              |       |       |
|----------------------|----------|-------------|-----|--------------|-------|-------|
| Sodium               | ppm      | ASTM D5185m |     | <b>9</b>     | 7     | 8     |
| Boron                | ppm      | ASTM D5185m |     | <b>130</b>   | 180   | 161   |
| Barium               | ppm      | ASTM D5185m |     | <b>0</b>     | 0     | <1    |
| Molybdenum           | ppm      | ASTM D5185m |     | <b>0</b>     | <1    | 0     |
| Manganese            | ppm      | ASTM D5185m |     | <b>6</b>     | 6     | 6     |
| Magnesium            | ppm      | ASTM D5185m |     | <b>6</b>     | 6     | 4     |
| Calcium              | ppm      | ASTM D5185m |     | <b>70</b>    | 80    | 82    |
| Phosphorus           | ppm      | ASTM D5185m |     | <b>1013</b>  | 1019  | 917   |
| Zinc                 | ppm      | ASTM D5185m |     | <b>82</b>    | 71    | 66    |
| Sulfur               | ppm      | ASTM D5185m |     | <b>23918</b> | 22633 | 19415 |
| Acid Number (AN)     | mg KOH/g | ASTM D8045  |     | <b>1.28</b>  | 1.08  | 1.27  |
| Visc @ 40°C          | cSt      | ASTM D445   |     | <b>307</b>   | 310   | 308   |
| Visc @ 100°C         | cSt      | ASTM D445   | 30  | <b>25.3</b>  | 25.5  | 25.3  |
| Viscosity Index (VI) | Scale    | ASTM D2270  | 105 | <b>106</b>   | 106   | 106   |

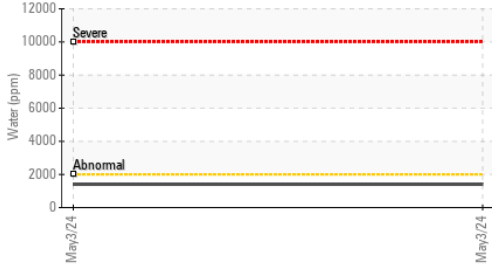
▲ Ferrous Alloys



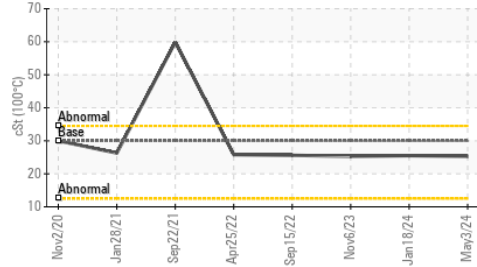
Acid Number



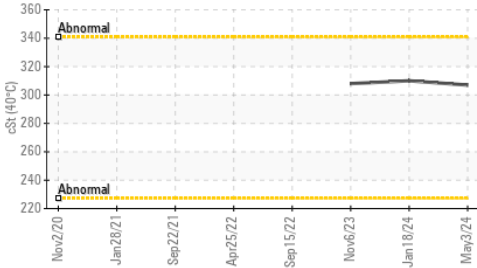
Water (KF)



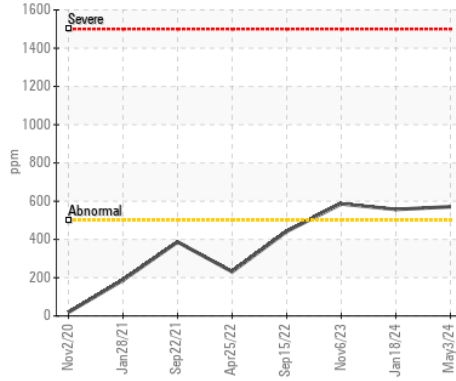
Viscosity @ 100°C



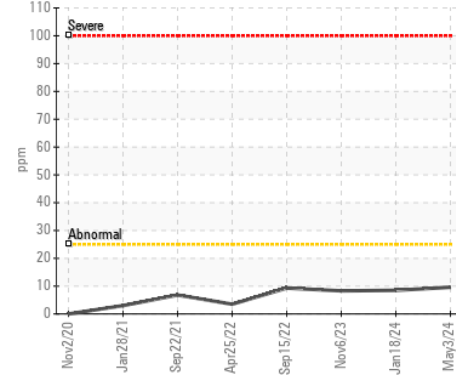
Viscosity @ 40°C



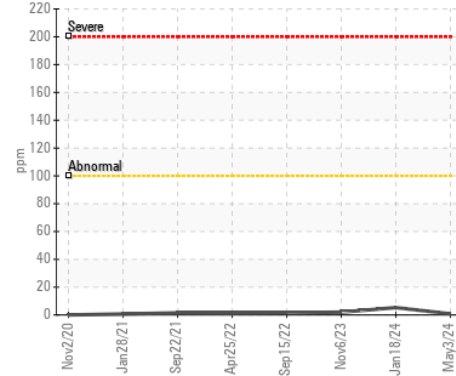
▲ Iron (ppm)



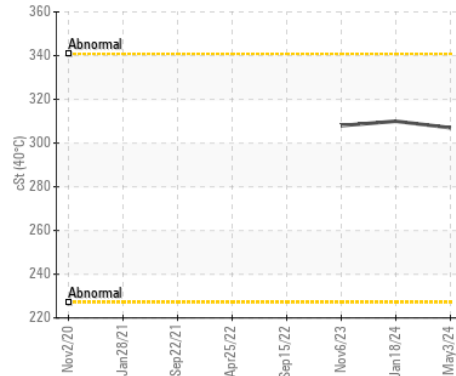
Aluminum (ppm)



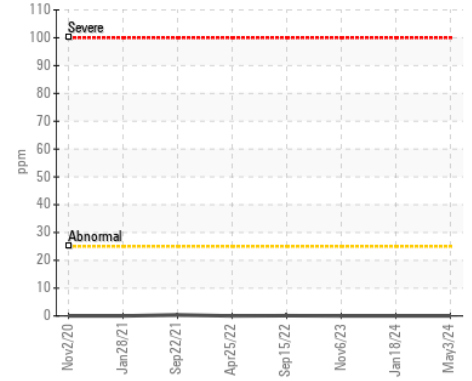
Copper (ppm)



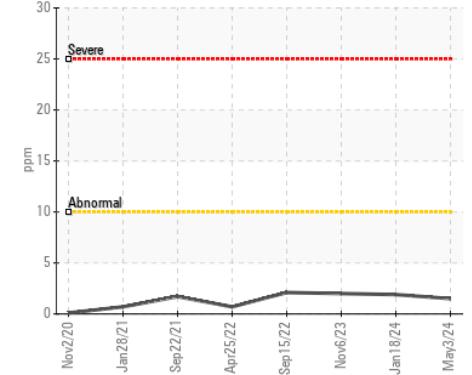
Viscosity @ 40°C



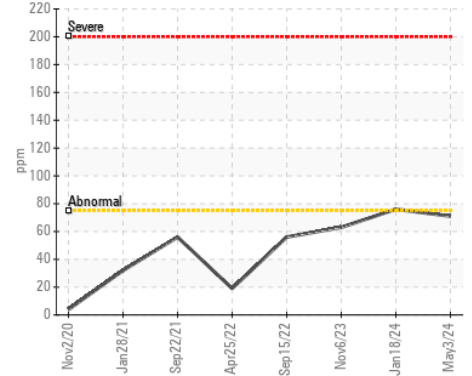
Lead (ppm)



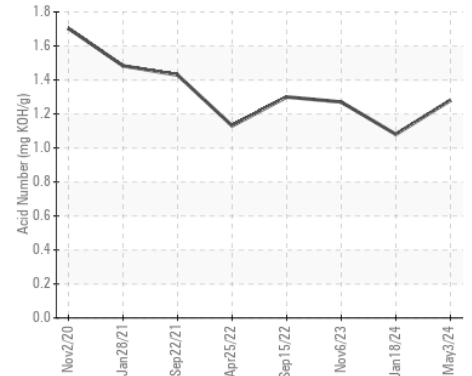
Chromium (ppm)



Silicon (ppm)



Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR0001338  
**Lab Number** : 06174709  
**Unique Number** : 11020762  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, VI )

**Received** : 09 May 2024  
**Tested** : 13 May 2024  
**Diagnosed** : 13 May 2024 - Don Baldrige

**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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