



OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL



Area
Ewing Hauling
 Machine Id
AUTOCAR 6751
 Component
Diesel Engine
 Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)



DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is positive.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|----------|----------|
| Sample Number | Client Info | | | WC0840468 | --- | --- |
| Sample Date | Client Info | | | 19 Sep 2023 | --- | --- |
| Machine Age | hrs | Client Info | | 5884 | --- | --- |
| Oil Age | hrs | Client Info | | 450 | --- | --- |
| Oil Changed | Client Info | | | Changed | --- | --- |
| Sample Status | | | | SEVERE | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel | WC Method | | >5 | <1.0 | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >100 | 14 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 3 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 2 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 16 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185m | | 0 | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 8 | --- | --- |
| Barium | ppm | ASTM D5185m | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 66 | 96 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 1000 | 522 | --- | --- |
| Calcium | ppm | ASTM D5185m | 1050 | 1453 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 617 | --- | --- |
| Zinc | ppm | ASTM D5185m | 1270 | 930 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 2827 | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|-------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | --- | --- |
| Sodium | ppm | ASTM D5185m | | 426 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 505 | --- | --- |
| Glycol | % | *ASTM D2982 | | 0.10 | --- | --- |

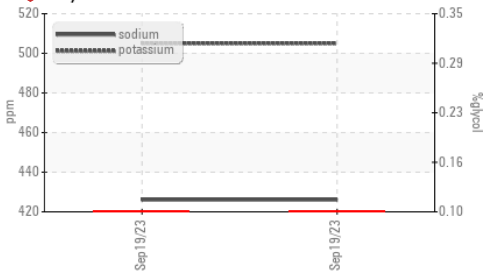
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | >3 | 0.1 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.8 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.2 | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.7 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | 6.3 | --- | --- |



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Glycol Contamination

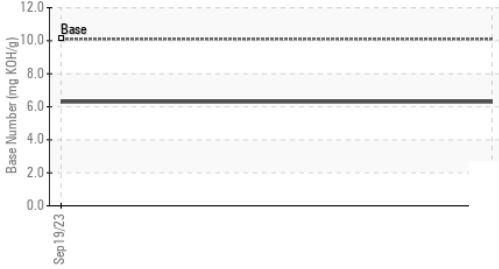


| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| 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 | --- |
| Free Water | scalar | *Visual | | NEG | --- |

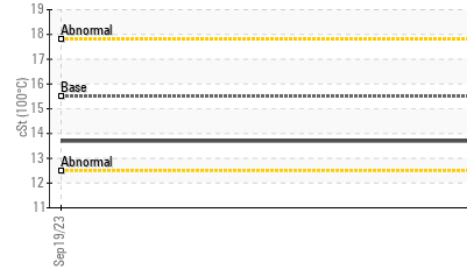
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 13.7 | --- |

GRAPHS

Base Number



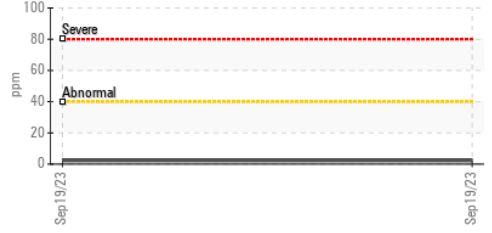
Viscosity @ 100°C



Iron (ppm)



Lead (ppm)



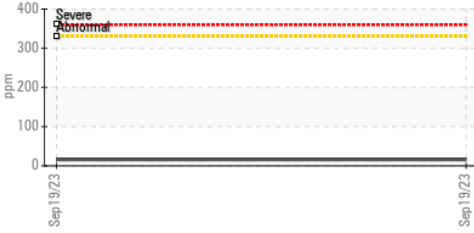
Aluminum (ppm)



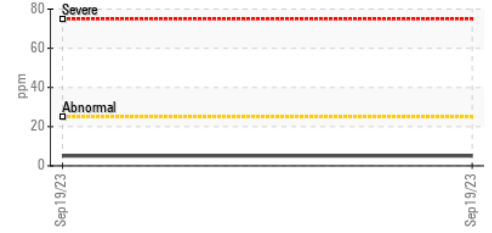
Chromium (ppm)



Copper (ppm)



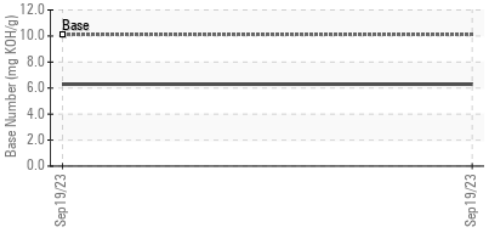
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0840468 **Received** : 27 Sep 2023
Lab Number : 05961984 **Diagnosed** : 28 Sep 2023
Unique Number : 10668535 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

INTERSTATE WASTE-EWING
 432 STOKES AVENUE
 EWING TOWNSHIP, NJ
 US 08638
 Contact: Carlos Evans
 CEvans@interstatewaste.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - 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)