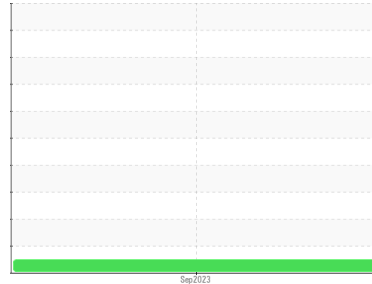




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Brooklyn Hauling
Machine Id
MACK 1215
Component
Diesel Engine
Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a components first oil change.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info | | WC0850544 | --- | --- |
| Sample Date | Client Info | | 30 Sep 2023 | --- | --- |
| Machine Age | hrs | Client Info | 450 | --- | --- |
| Oil Age | hrs | Client Info | 450 | --- | --- |
| Oil Changed | Client Info | | Changed | --- | --- |
| Sample Status | | | NORMAL | --- | --- |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | <1.0 | --- | --- |
| Glycol | WC Method | | NEG | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >120 | 5 | --- | --- |
| Chromium | ppm | ASTM D5185m >20 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m >5 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m >2 | <1 | --- | --- |
| Silver | ppm | ASTM D5185m >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m >20 | 0 | --- | --- |
| Lead | ppm | ASTM D5185m >40 | 0 | --- | --- |
| Copper | ppm | ASTM D5185m >330 | <1 | --- | --- |
| Tin | ppm | ASTM D5185m >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | <1 | --- | --- |
| Cadmium | ppm | ASTM D5185m | <1 | --- | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 8 | --- | --- |
| Barium | ppm | ASTM D5185m | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m 66 | 62 | --- | --- |
| Manganese | ppm | ASTM D5185m | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m 1000 | 773 | --- | --- |
| Calcium | ppm | ASTM D5185m 1050 | 1252 | --- | --- |
| Phosphorus | ppm | ASTM D5185m 1150 | 958 | --- | --- |
| Zinc | ppm | ASTM D5185m 1270 | 1194 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 3150 | --- | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 4 | --- | --- |
| Sodium | ppm | ASTM D5185m | 2 | --- | --- |
| Potassium | ppm | ASTM D5185m >20 | 1 | --- | --- |

INFRA-RED

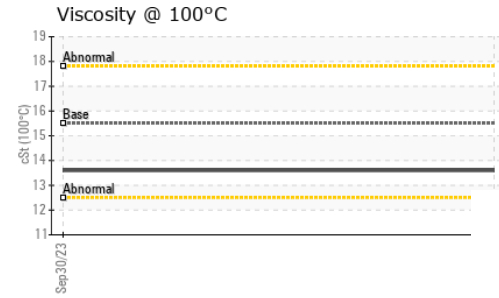
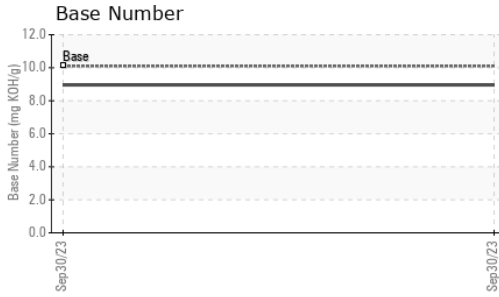
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >4 | 0.2 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 8.7 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 20.2 | --- | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 17.3 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.1 | 8.96 | --- | --- |



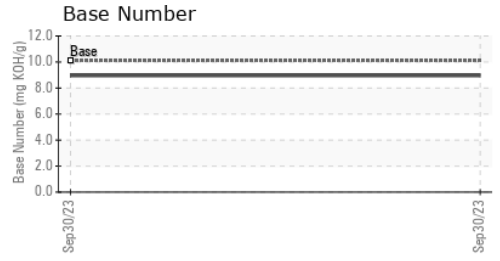
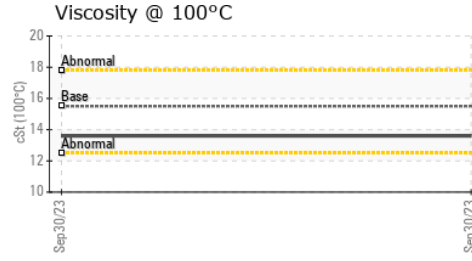
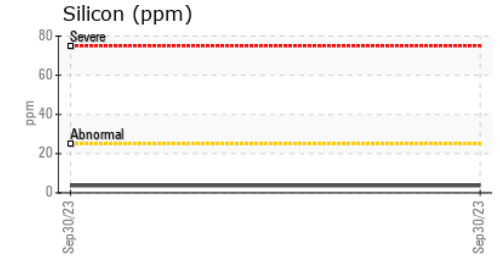
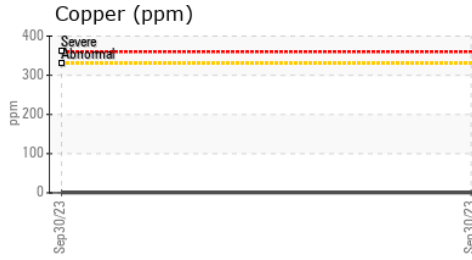
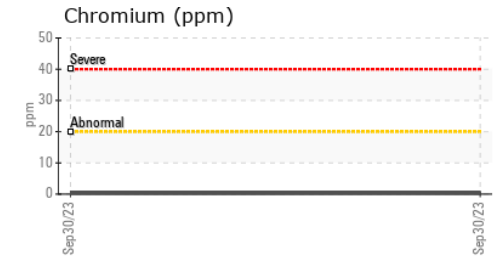
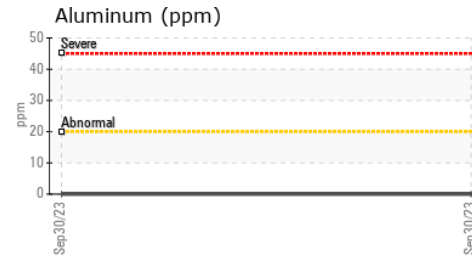
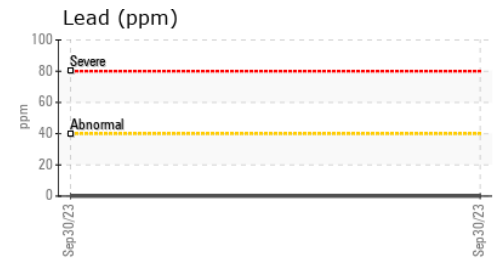
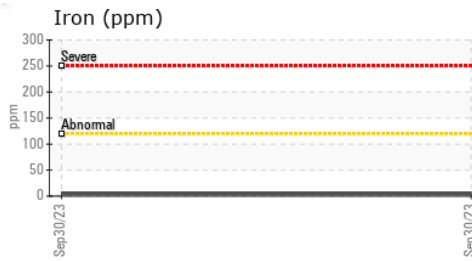
OIL ANALYSIS REPORT



| 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 | 13.6 | --- |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0850544 **Received** : 04 Oct 2023
Lab Number : **05969112** **Diagnosed** : 05 Oct 2023
Unique Number : 10675663 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

INTERSTATE WASTE-BROOKLYN
 505 COZINE AVENUE
 BROOKLYN, NY
 US 10474
 Contact: Steve Andreuk
 SAndreuk@actioncarting.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)

T:
F: