



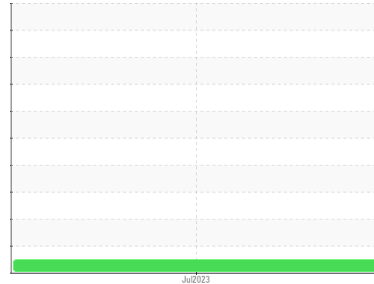
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**MACK GRANITE MP7 0004 (S/N 642548)**  
 Component  
**Diesel Engine**  
 Fluid  
**HPL HD CK-4 15W40 (--- QTS)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### 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		<b>HPL0003550</b>	---	---
Sample Date	Client Info		<b>29 Jul 2023</b>	---	---
Machine Age	hrs	Client Info	<b>1264</b>	---	---
Oil Age	hrs	Client Info	<b>600</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>12</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m >20	<b>6</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>2</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>171</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>5</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>589</b>	---	---
Manganese	ppm	ASTM D5185m	<b>2</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>1057</b>	---	---
Calcium	ppm	ASTM D5185m	<b>2633</b>	---	---
Phosphorus	ppm	ASTM D5185m	<b>1032</b>	---	---
Zinc	ppm	ASTM D5185m	<b>1311</b>	---	---
Sulfur	ppm	ASTM D5185m	<b>8008</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>15</b>	---	---
Sodium	ppm	ASTM D5185m	<b>3</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>18</b>	---	---

## INFRA-RED

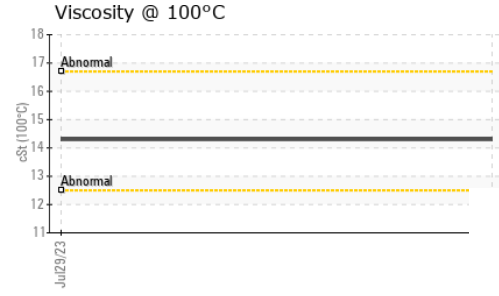
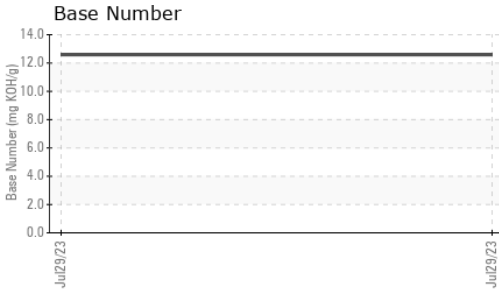
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.2</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>12.7</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>39.2</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>40.7</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	<b>12.59</b>	---	---



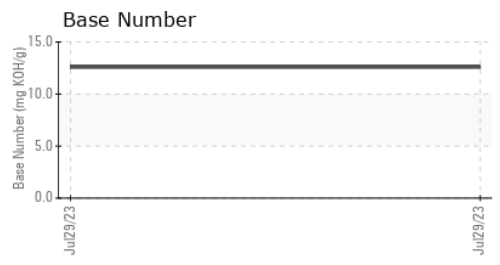
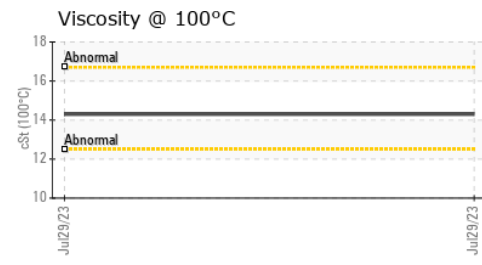
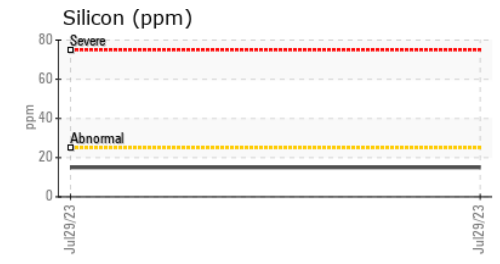
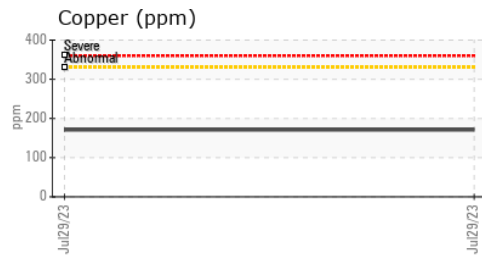
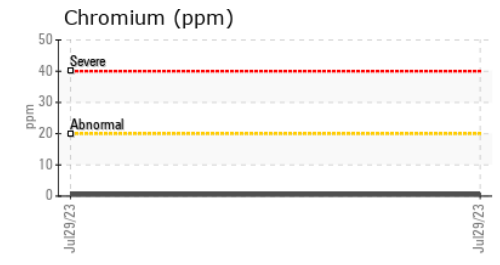
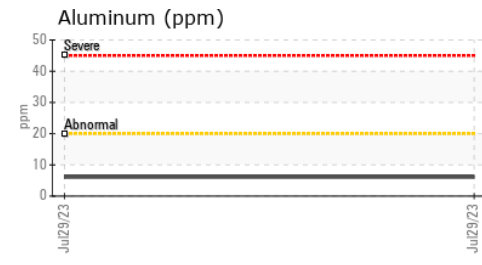
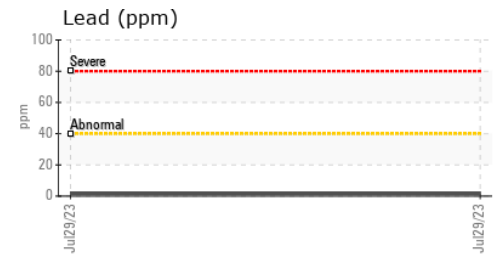
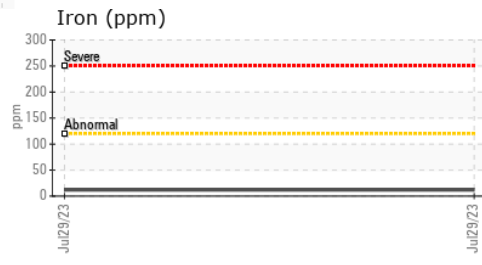
# OIL ANALYSIS REPORT



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	<b>14.3</b>	---	---

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HPL0003550 **Received** : 28 Aug 2023  
**Lab Number** : 05936345 **Diagnosed** : 29 Aug 2023  
**Unique Number** : 10621616 **Diagnostician** : Sean Felton  
**Test Package** : MOB 2

**QUALITY-CRETE**  
 6441 SAN CASA DR  
 ENGLEWOOD, FL  
 US 34224  
 Contact: J SMITH  
 JSMITH@QUALITY-CRETE.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)

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F: