



OIL ANALYSIS REPORT

Area
Bernardsville
 Machine Id
MACK 2436
 Component
Diesel Engine
 Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)

Sample Rating Trend



DIRT



DIAGNOSIS

▲ Recommendation

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

▲ Wear

The nickel level is abnormal. All other component wear rates are normal.

▲ Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0875354	---	---
Sample Date	Client Info		15 Nov 2023	---	---
Machine Age	hrs	Client Info	15682	---	---
Oil Age	hrs	Client Info	0	---	---
Oil Changed	Client Info		Not Chngd	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	---	---
Glycol	WC Method		NEG	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	24	---	---
Chromium	ppm	ASTM D5185m >20	<1	---	---
Nickel	ppm	ASTM D5185m >5	▲ 8	---	---
Titanium	ppm	ASTM D5185m >2	<1	---	---
Silver	ppm	ASTM D5185m >2	<1	---	---
Aluminum	ppm	ASTM D5185m >20	3	---	---
Lead	ppm	ASTM D5185m >40	1	---	---
Copper	ppm	ASTM D5185m >330	8	---	---
Tin	ppm	ASTM D5185m >15	4	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	26	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m 66	61	---	---
Manganese	ppm	ASTM D5185m	2	---	---
Magnesium	ppm	ASTM D5185m 1000	492	---	---
Calcium	ppm	ASTM D5185m 1050	1453	---	---
Phosphorus	ppm	ASTM D5185m 1150	752	---	---
Zinc	ppm	ASTM D5185m 1270	927	---	---
Sulfur	ppm	ASTM D5185m	2575	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 81	---	---
Sodium	ppm	ASTM D5185m	7	---	---
Potassium	ppm	ASTM D5185m >20	6	---	---
Fuel	%	ASTM D3524 >3.0	▲ 3.1	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.4	---	---
Nitration	Abs/cm	*ASTM D7624 >20	9.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.3	---	---

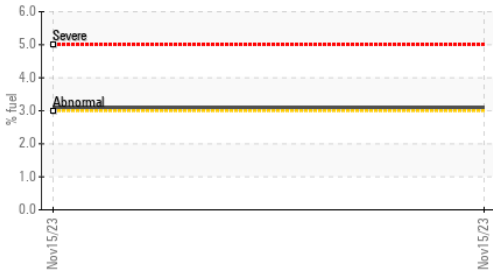
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	8.25	---	---

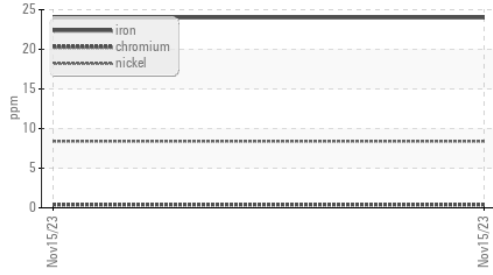


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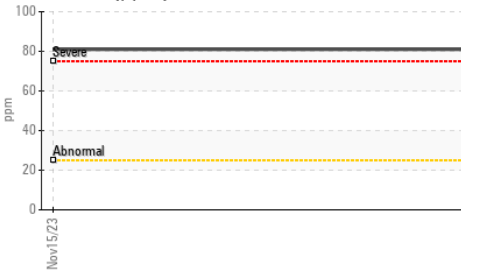
Fuel Dilution



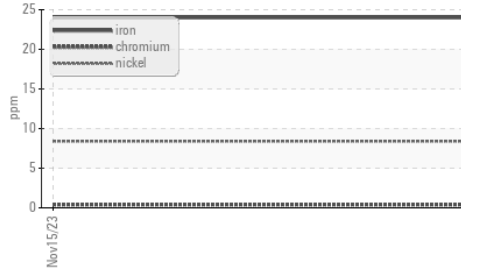
Ferrous Alloys



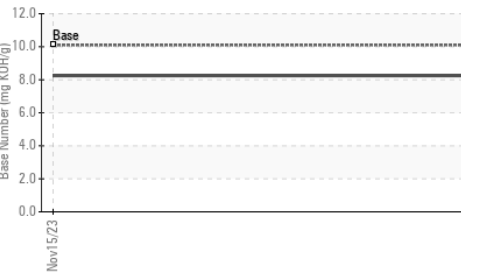
Silicon (ppm)



Ferrous Alloys



Base Number

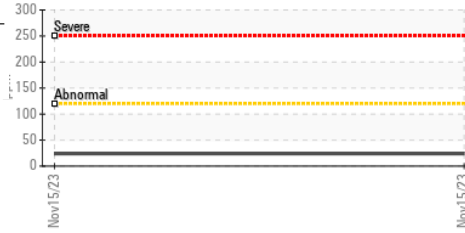


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	▲ 11.7	---

GRAPHS

Iron (ppm)



Lead (ppm)



Aluminum (ppm)



Chromium (ppm)



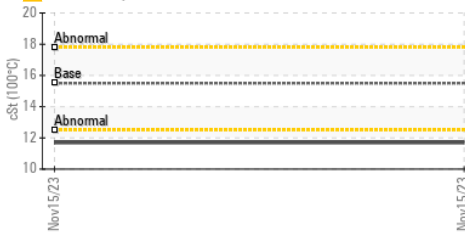
Copper (ppm)



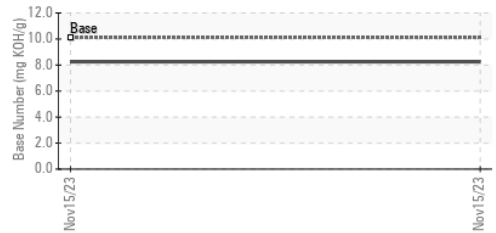
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0875354 Received : 21 Nov 2023
 Lab Number : 06014183 Diagnosed : 24 Nov 2023
 Unique Number : 10753327 Diagnostician : Doug Bogart
 Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

INTERSTATE WASTE-BERNARDSVILLE
 33 OLD QUARRY ROAD
 BERNARDSVILLE, NJ
 US 07924
 Contact: Pablo Chardon
 PChardon@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)

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F: