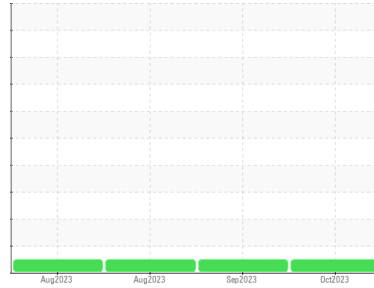




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Bernardsville
 Machine Id
MACK 2434
 Component
Diesel Engine
 Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)

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		WC0864900	WC0830900	WC0831062
Sample Date	Client Info		07 Oct 2023	15 Sep 2023	08 Aug 2023
Machine Age	hrs	Client Info	16015	15868	15604
Oil Age	hrs	Client Info	16015	150	450
Oil Changed	Client Info		Changed	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

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

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	12	9	10
Barium	ppm	ASTM D5185m	12	0	0
Molybdenum	ppm	ASTM D5185m 66	63	68	61
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1000	826	864	837
Calcium	ppm	ASTM D5185m 1050	1198	1234	1239
Phosphorus	ppm	ASTM D5185m 1150	974	1038	970
Zinc	ppm	ASTM D5185m 1270	1212	1278	1229
Sulfur	ppm	ASTM D5185m	2959	3619	3537

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	5	15
Sodium	ppm	ASTM D5185m	2	2	2
Potassium	ppm	ASTM D5185m >20	3	2	2

INFRA-RED

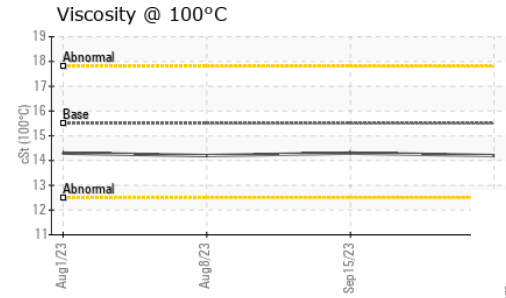
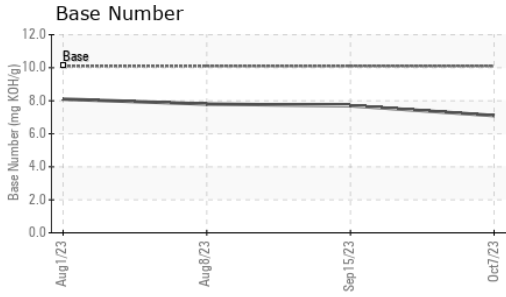
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	8.2	7.4	7.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.5	19.2	19.3

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.2	14.9	14.8
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	7.1	7.7	7.8



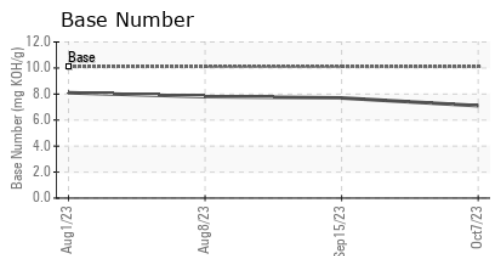
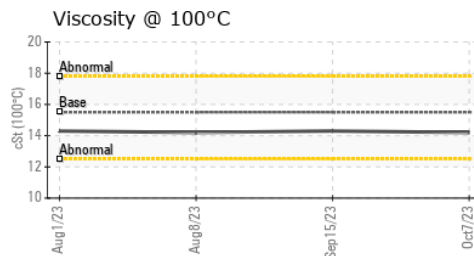
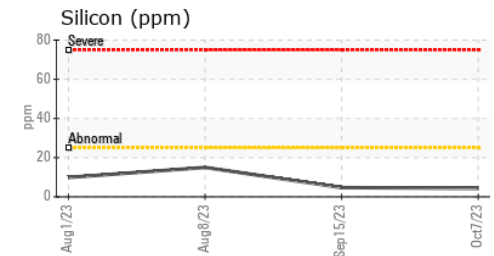
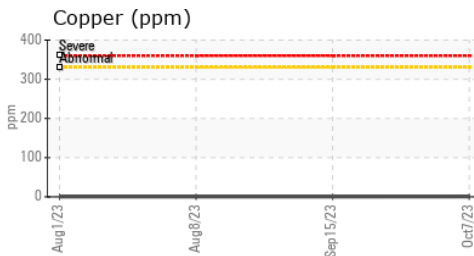
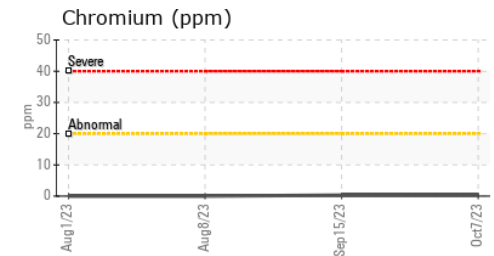
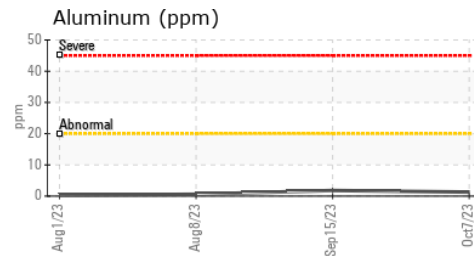
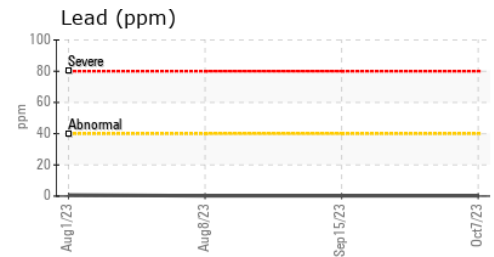
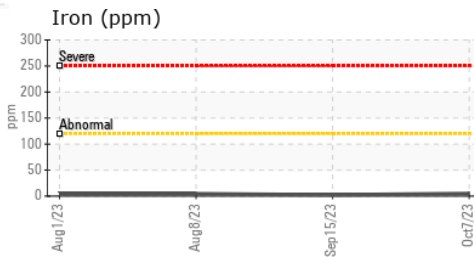
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.5	14.2	14.3	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0864900 **Received** : 13 Oct 2023
Lab Number : 05978689 **Diagnosed** : 16 Oct 2023
Unique Number : 10695984 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

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)

T:
F: