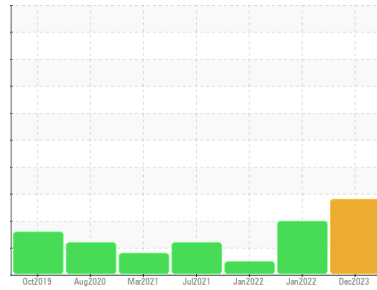




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
MACK CV713 DRW-4 (S/N 1M2A611C4M008774)
 Component
Diesel Engine
 Fluid
 {not provided} (42 QTS)

DIAGNOSIS

Recommendation
 Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

Contamination
 Elemental level of silicon (Si) above normal.

Fluid Condition
 The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0632524	WCM1394475	WCM1394469
Sample Date	Client Info			18 Dec 2023	27 Jan 2022	27 Jan 2022
Machine Age	hrs	Client Info		0	530964	24942
Oil Age	hrs	Client Info		320	7500	355
Oil Changed	Client Info			Changed	Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	66	25	27
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	6	1	<1
Copper	ppm	ASTM D5185m	>330	14	3	4
Tin	ppm	ASTM D5185m	>15	5	1	<1
Antimony	ppm	ASTM D5185m		---	---	---
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		74	52	46
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		53	3	2
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		568	30	13
Calcium	ppm	ASTM D5185m		1611	1949	2241
Phosphorus	ppm	ASTM D5185m		1130	912	1082
Zinc	ppm	ASTM D5185m		1319	1117	1297
Sulfur	ppm	ASTM D5185m		3875	3249	3607

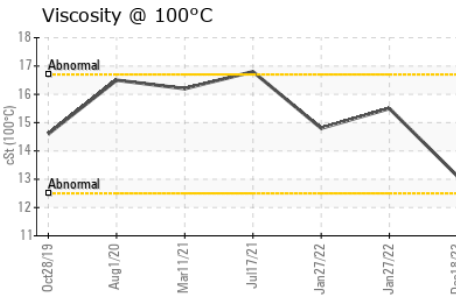
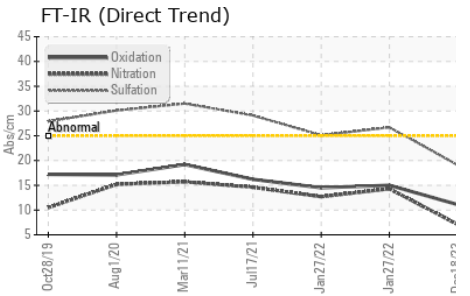
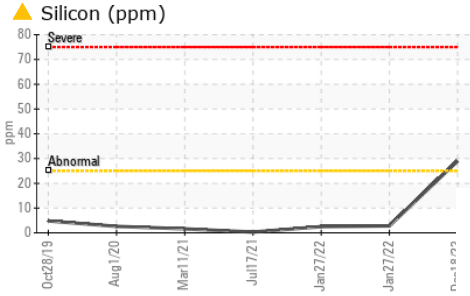
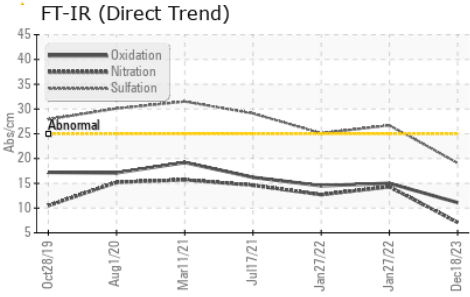
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ 29	2	3
Sodium	ppm	ASTM D5185m		8	2	0
Potassium	ppm	ASTM D5185m	>20	3	2	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	2.2	▲ 4.5	3.8
Nitration	Abs/cm	*ASTM D7624	>20	7.1	14.3	12.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	26.7	25.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.1	15.0	14.5
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 0.0	▲ 3.7	6.3



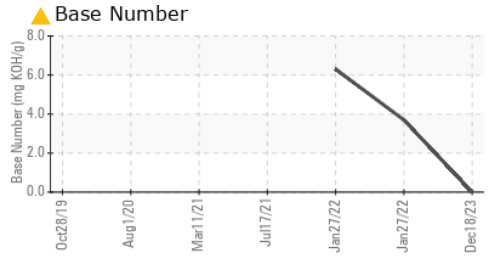
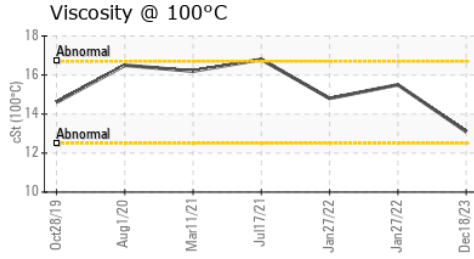
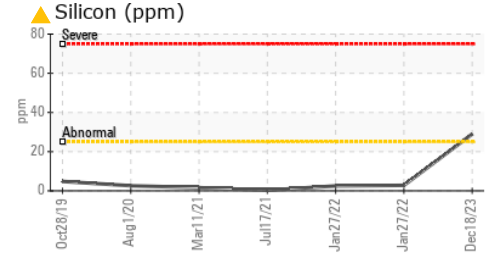
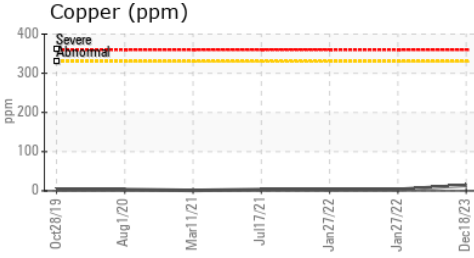
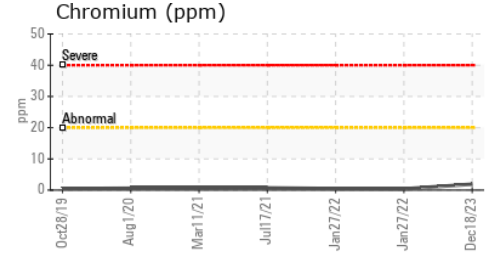
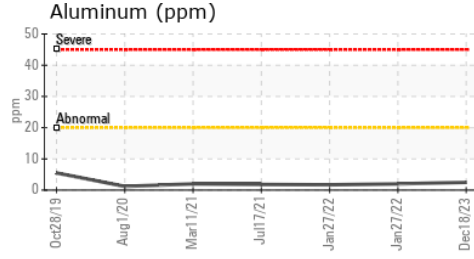
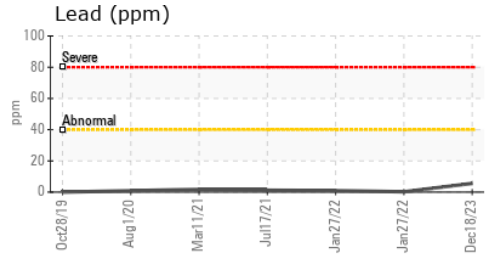
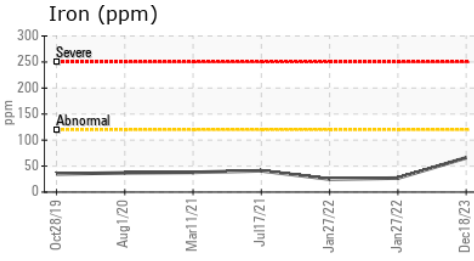
OIL ANALYSIS REPORT



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	13.1	15.5	14.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0632524 **Received** : 17 Jun 2024
Lab Number : 06211325 **Tested** : 19 Jun 2024
Unique Number : 11084189 **Diagnosed** : 19 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

D&R WATTS GRADING
 501 ROBIN CT
 ARCHDALE, NC
 US 27263
 Contact: DANIEL WATTS
 d_rwattsgrading@yahoo.com
 T: (336)362-0290
 F:

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)