



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
SOLD LOCATIONS - LESCAM - CAMBRIDGE

Machine Id
1068

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0048279	LEC0043308	LEC0039886
Sample Date		Client Info		07 Mar 2024	03 Jul 2023	22 May 2023
Machine Age	hrs	Client Info		33584	32393	31889
Oil Age	hrs	Client Info		400	400	400
Filter Age	hrs	Client Info		400	400	400
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	18	10	11
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		3	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	3
Lead	ppm	ASTM D5185m	>40	3	37	▲ 58
Copper	ppm	ASTM D5185m	>330	14	0	3
Tin	ppm	ASTM D5185m	>15	<1	0	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elemental level of silicon (Si) above normal indicating ingress of seal material.

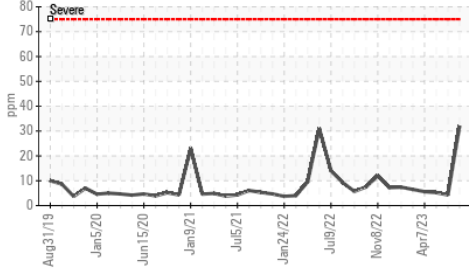
Silicon	ppm	ASTM D5185m	>120	▲ 32	4	5
Potassium	ppm	ASTM D5185m	>20	3	0	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.1	8.5	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	24.1	24.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

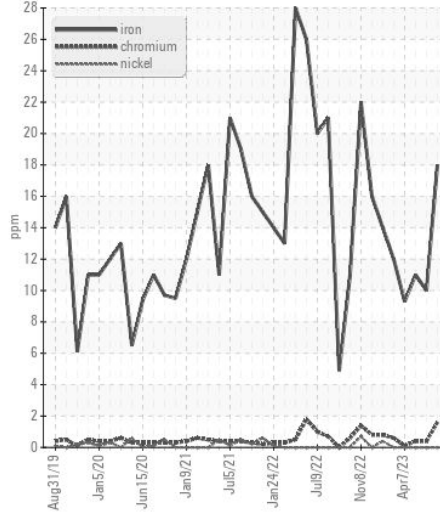
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	<1	0
Boron	ppm	ASTM D5185m	316	208	227	237
Barium	ppm	ASTM D5185m	0.0	15	0	0
Molybdenum	ppm	ASTM D5185m	1.2	90	122	139
Manganese	ppm	ASTM D5185m		4	0	<1
Magnesium	ppm	ASTM D5185m	24	606	675	639
Calcium	ppm	ASTM D5185m	2292	2110	1482	1578
Phosphorus	ppm	ASTM D5185m	1064	824	718	698
Zinc	ppm	ASTM D5185m	1160	964	851	877
Sulfur	ppm	ASTM D5185m	4996	3527	2791	2827
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	19.1	18.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.8	8.0	7.9
Visc @ 100°C	cSt	ASTM D445	15.7	12.8	13.4	13.4

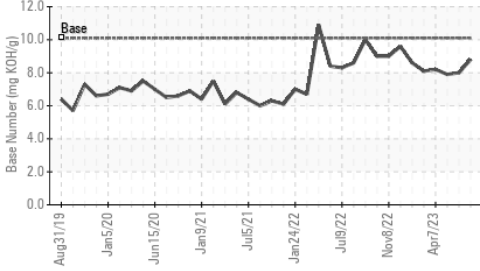
▲ Silicon (ppm)



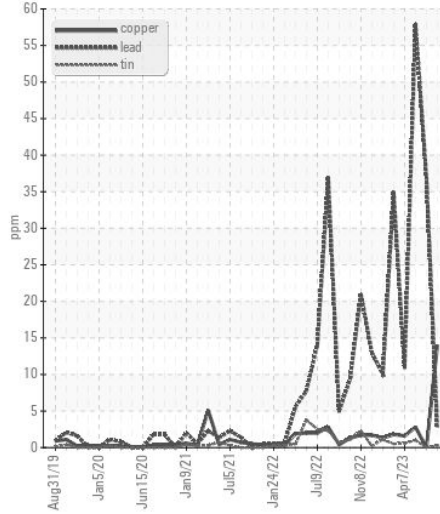
Ferrous Alloys



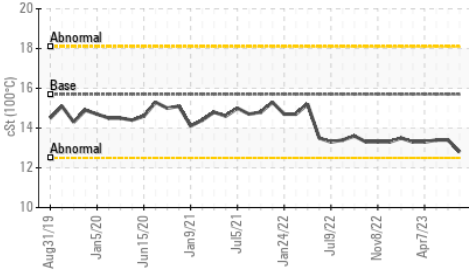
Base Number



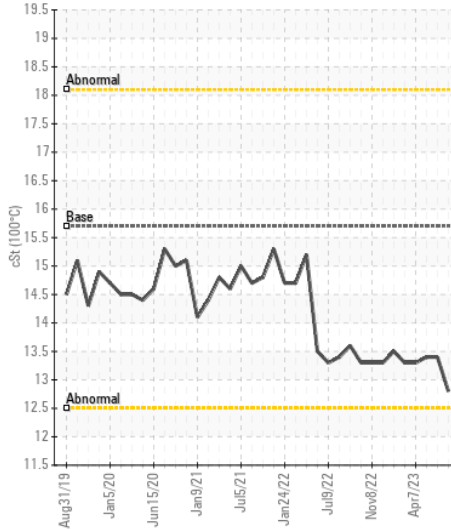
Non-ferrous Metals



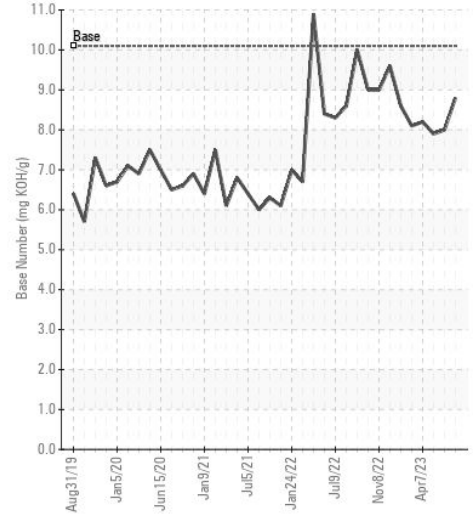
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048279 **Received** : 20 Mar 2024
Lab Number : 06123335 **Tested** : 21 Mar 2024
Unique Number : 10937486 **Diagnosed** : 22 Mar 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

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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)