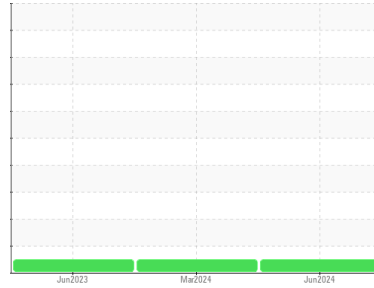




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
KENWORTH T880 4917 (S/N 1XKZDP9X8PJ239969)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

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			WC0917303	WC0878863	WC0613615
Sample Date	Client Info			19 Jun 2024	27 Mar 2024	14 Jun 2023
Machine Age	mls	Client Info		45193	32724	24826
Oil Age	mls	Client Info		0	0	0
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<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	>100	26	66	85
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	22	62
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	4	10
Tin	ppm	ASTM D5185m	>15	<1	2	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	11	13	4
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	25	55	48
Manganese	ppm	ASTM D5185m		1	1	3
Magnesium	ppm	ASTM D5185m	24	300	746	918
Calcium	ppm	ASTM D5185m	2292	2084	1693	1452
Phosphorus	ppm	ASTM D5185m	1064	983	1122	1030
Zinc	ppm	ASTM D5185m	1160	1211	1386	1260
Sulfur	ppm	ASTM D5185m	4996	4042	3874	3480

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	8	10	12
Sodium	ppm	ASTM D5185m		2	2	3
Potassium	ppm	ASTM D5185m	>20	19	57	152

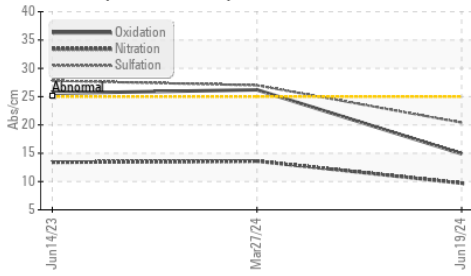
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.7	13.6	13.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	27.0	27.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	26.2	25.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.4	4.2	4.6

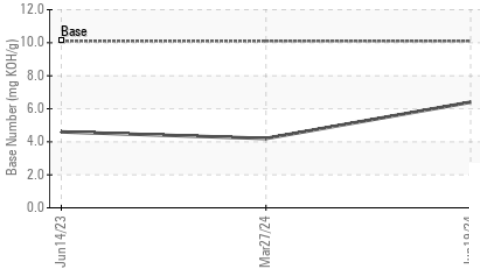


OIL ANALYSIS REPORT

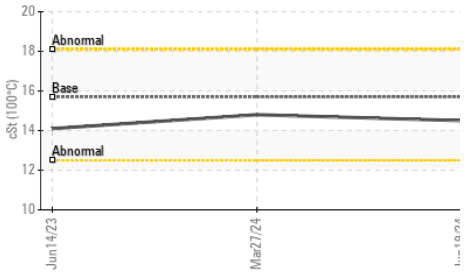
FT-IR (Direct Trend)



Base Number



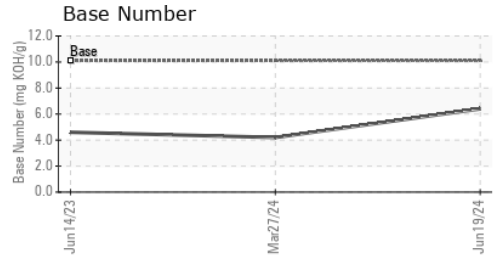
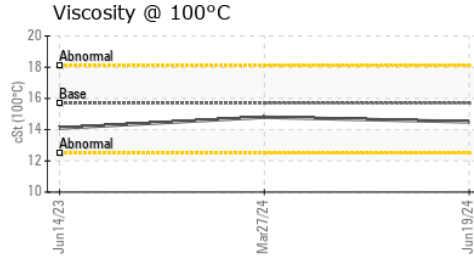
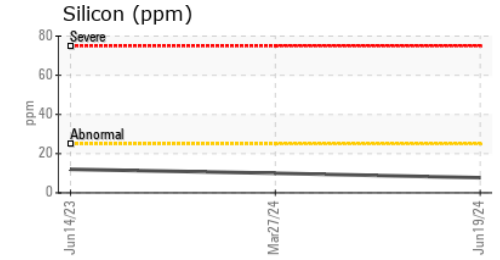
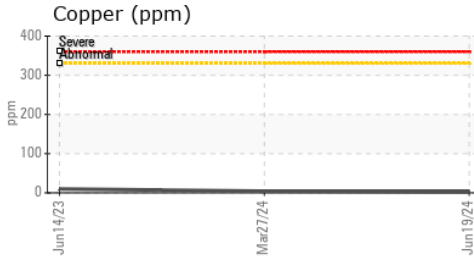
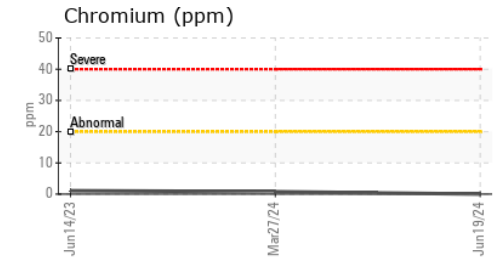
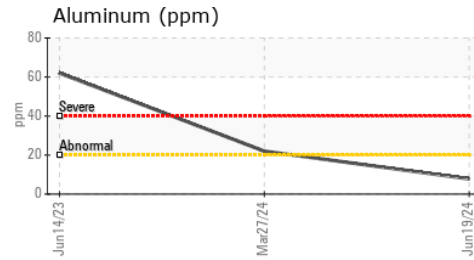
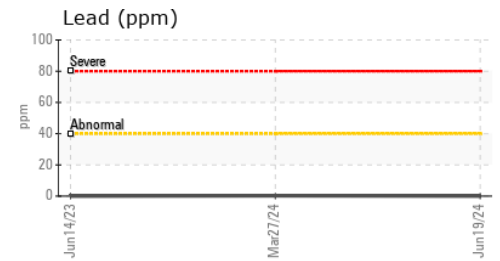
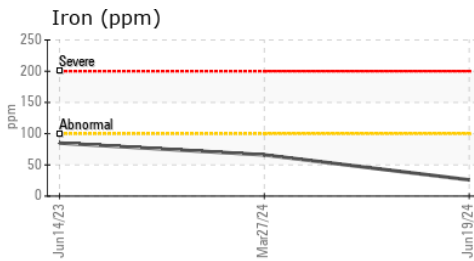
Viscosity @ 100°C



PARAMETER	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	15.7	14.5	14.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917303 **Received** : 25 Jun 2024
Lab Number : 06220503 **Tested** : 26 Jun 2024
Unique Number : 11098700 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

JOHNSON BREEDERS
 3425 HWY 117N
 ROSE HILL, NC
 US 28458
 Contact: GREG JONES
 gregory.jones@houseofraeford.com
 T: (910)289-6884
 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)