



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2207
 Component
Diesel Engine
 Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0719846	WC0719860	WC0719866
Sample Date		Client Info		01 Mar 2024	31 Oct 2023	02 Sep 2023
Machine Age	mls	Client Info		352731	301154	278267
Oil Age	mls	Client Info		50000	50000	50000
Filter Age	mls	Client Info		50000	50000	50000
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	36	71	60
Chromium	ppm	ASTM D5185m	>20	<1	3	2
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	8	17	12
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	10	30	46
Tin	ppm	ASTM D5185m	>15	0	1	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

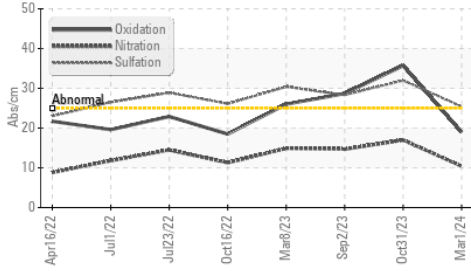
Silicon	ppm	ASTM D5185m	>25	7	11	10
Potassium	ppm	ASTM D5185m	>20	19	58	55
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.1	2	1.5
Nitration	Abs/cm	*ASTM D7624	>20	10.4	17.0	14.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.4	32.0	28.3
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

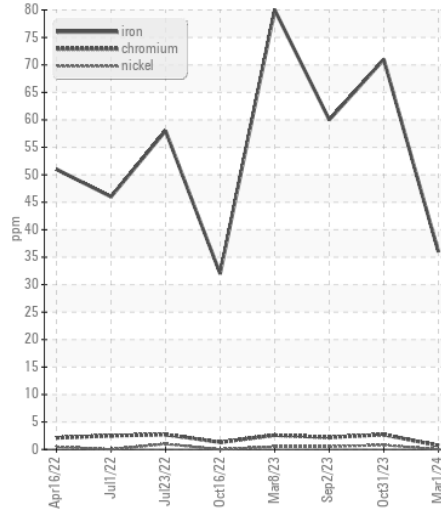
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	9	8
Boron	ppm	ASTM D5185m	0	0	<1	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	100	9	55	55
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m	60	141	861	862
Calcium	ppm	ASTM D5185m	3050	2359	1497	1641
Phosphorus	ppm	ASTM D5185m	1050	867	1068	1058
Zinc	ppm	ASTM D5185m	1200	1056	1384	1386
Sulfur	ppm	ASTM D5185m	12500	3543	2548	2711
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	35.7	28.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	5.0	3.2	4.7
Visc @ 100°C	cSt	ASTM D445	14.9	13.4	14.6	13.9

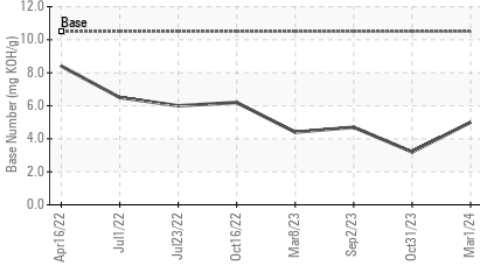
FT-IR (Direct Trend)



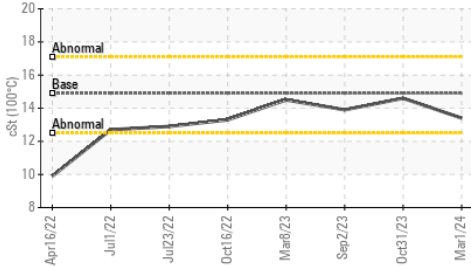
Ferrous Alloys



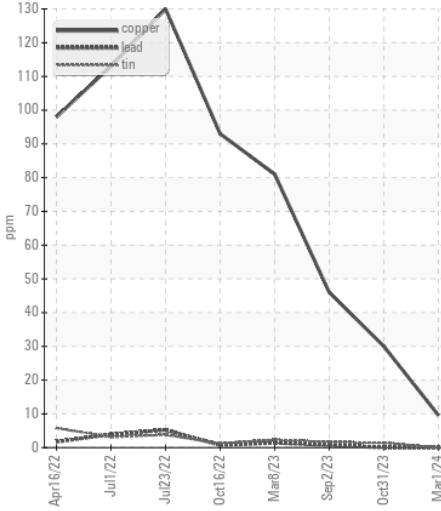
Base Number



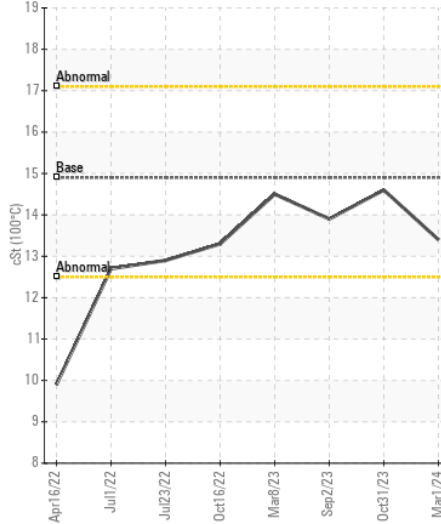
Viscosity @ 100°C



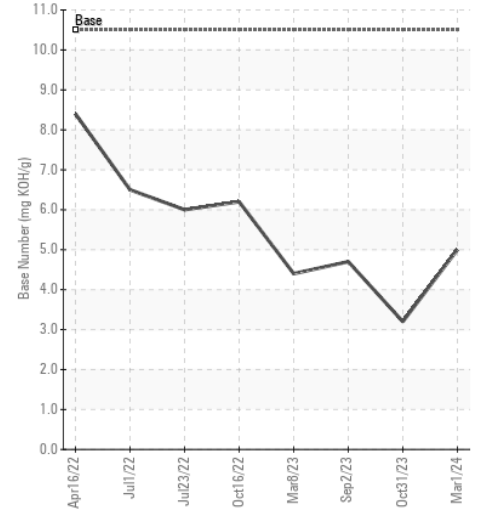
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0719846
Lab Number : 06149466
Unique Number : 10979544
Test Package : FLEET

Received : 15 Apr 2024
Tested : 16 Apr 2024
Diagnosed : 16 Apr 2024 - Wes Davis

DILLON TRANSPORTATION
 4445 NORTH INTERSTATE WAY
 KINGMAN, AZ
 US 86401
 Contact: T LAMOREAUX
 t.lamoreaux@dillontransportation.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: