



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2201
 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		WC0720015	WC0719908	WC0537350
Sample Date		Client Info		19 Apr 2024	24 Jul 2023	14 May 2023
Machine Age	mls	Client Info		375193	277056	225333
Oil Age	mls	Client Info		50000	50000	100000
Filter Age	mls	Client Info		50000	50000	25000
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	39	28	67
Chromium	ppm	ASTM D5185m	>20	2	1	2
Nickel	ppm	ASTM D5185m	>4	1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	6	4	21
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	12	16	63
Tin	ppm	ASTM D5185m	>15	1	<1	2
Vanadium	ppm	ASTM D5185m		<1	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.

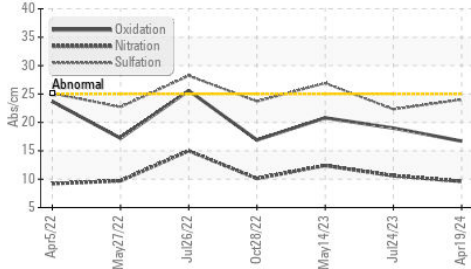
Silicon	ppm	ASTM D5185m	>25	7	5	9
Potassium	ppm	ASTM D5185m	>20	11	15	54
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	0.8	1.4
Nitration	Abs/cm	*ASTM D7624	>20	9.6	10.6	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	22.3	26.9
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

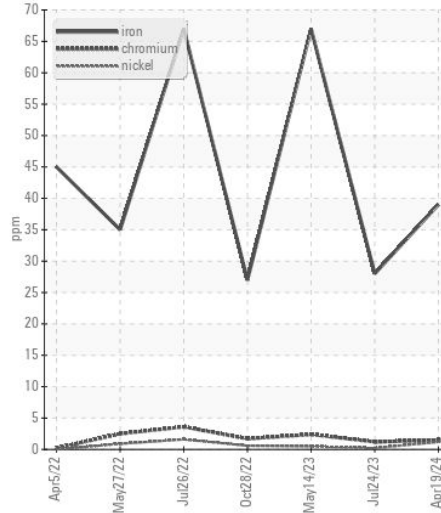
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	1	3
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	1	0	0
Molybdenum	ppm	ASTM D5185m	100	8	47	2
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	60	107	765	35
Calcium	ppm	ASTM D5185m	3050	2456	1653	2514
Phosphorus	ppm	ASTM D5185m	1050	1055	1023	887
Zinc	ppm	ASTM D5185m	1200	1173	1340	1123
Sulfur	ppm	ASTM D5185m	12500	3612	3018	3372
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	19.0	20.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	5.0	6.8	5.0
Visc @ 100°C	cSt	ASTM D445	14.9	13.0	12.8	13.4

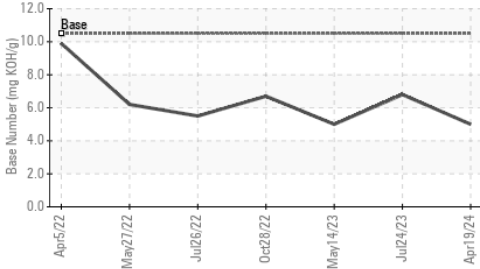
FT-IR (Direct Trend)



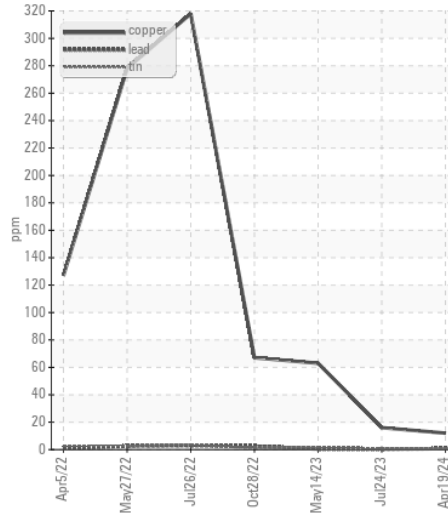
Ferrous Alloys



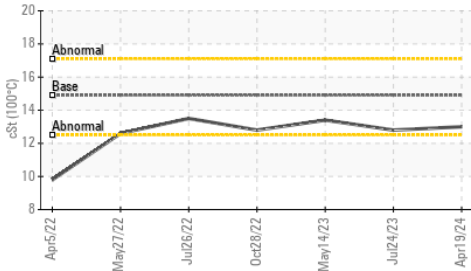
Base Number



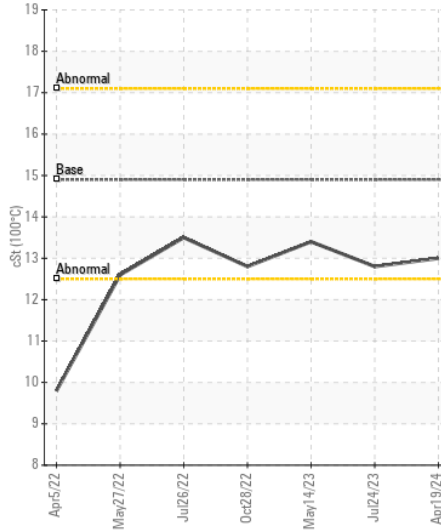
Non-ferrous Metals



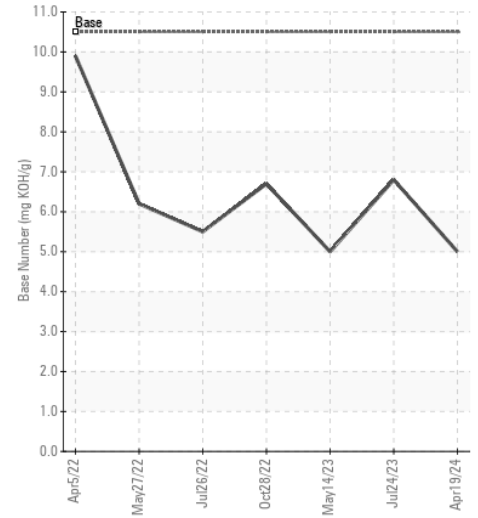
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0720015
Lab Number : 06219212
Unique Number : 11097409
Test Package : FLEET

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 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: