



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2406
 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		WC0719812	WC0719883	WC0719905
Sample Date		Client Info		22 Jun 2024	10 Feb 2024	02 Dec 2023
Machine Age	mls	Client Info		164770	70942	0
Oil Age	mls	Client Info		50000	50000	21208
Filter Age	mls	Client Info		50000	50000	0
Oil Changed		Client Info		Not Chngd	Not Chngd	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	49	62	51
Chromium	ppm	ASTM D5185m	>20	4	3	2
Nickel	ppm	ASTM D5185m	>4	3	2	5
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	12	20	23
Lead	ppm	ASTM D5185m	>40	2	3	5
Copper	ppm	ASTM D5185m	>330	91	342	▲ 336
Tin	ppm	ASTM D5185m	>15	1	5	29
Vanadium	ppm	ASTM D5185m		0	0	<1
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.

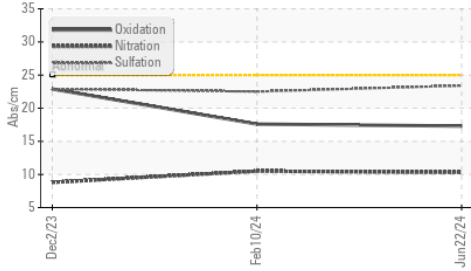
Silicon	ppm	ASTM D5185m	>25	9	8	8
Potassium	ppm	ASTM D5185m	>20	26	45	64
Fuel		WC Method	>5	<1.0	<1.0	0.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	0.8	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.3	10.5	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.4	22.5	22.9
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

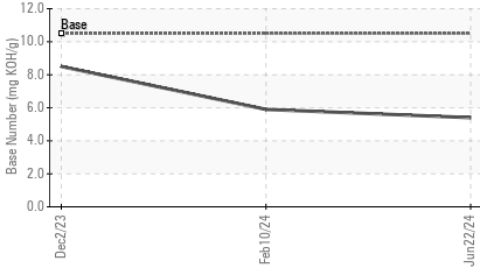
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	3	7
Boron	ppm	ASTM D5185m	0	3	<1	35
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	100	2	7	42
Manganese	ppm	ASTM D5185m		<1	2	4
Magnesium	ppm	ASTM D5185m	60	24	98	509
Calcium	ppm	ASTM D5185m	3050	2557	2600	1697
Phosphorus	ppm	ASTM D5185m	1050	861	946	677
Zinc	ppm	ASTM D5185m	1200	1137	1122	825
Sulfur	ppm	ASTM D5185m	12500	2900	2889	1858
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.3	17.6	22.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	5.4	5.9	8.5
Visc @ 100°C	cSt	ASTM D445	14.9	13.6	12.7	● 9.5

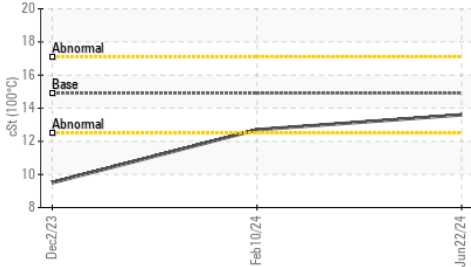
FT-IR (Direct Trend)



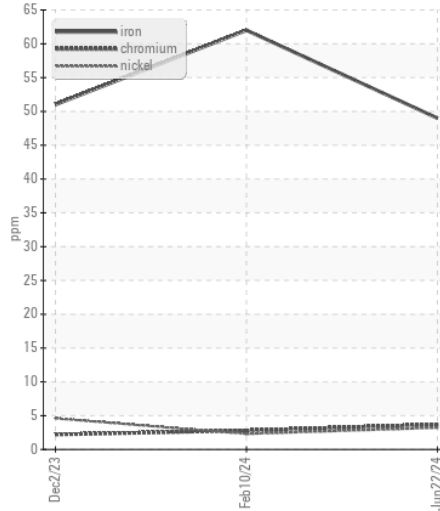
Base Number



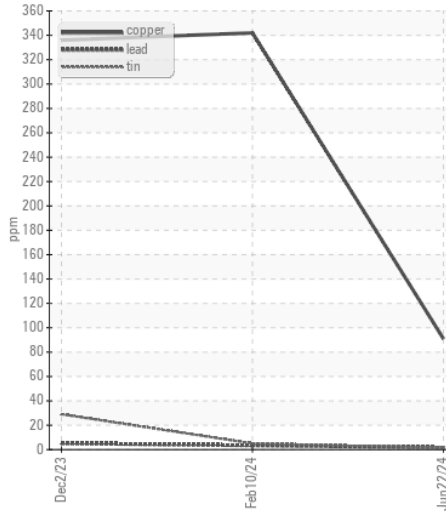
Viscosity @ 100°C



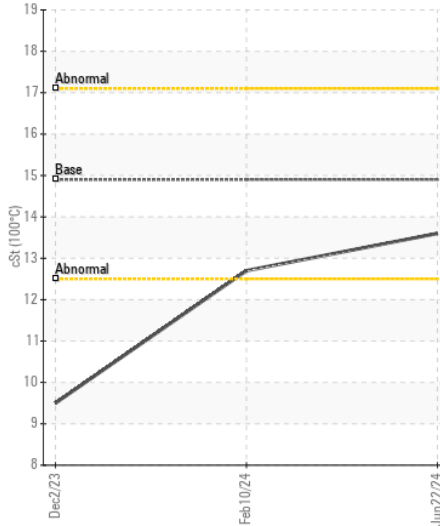
Ferrous Alloys



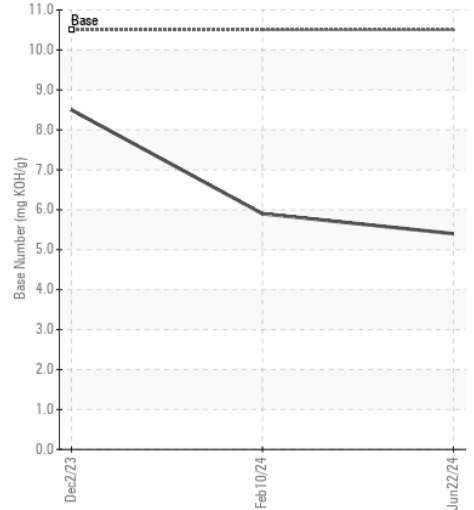
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0719812
Lab Number : 06241090
Unique Number : 11129924
Test Package : FLEET

Received : 18 Jul 2024
Tested : 19 Jul 2024
Diagnosed : 19 Jul 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: