



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

RTS
Machine Id
[RTS] 888

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (24 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0901445	WC0901480	WC0843781
Sample Date		Client Info		24 May 2024	21 Feb 2024	06 Nov 2023
Machine Age	mls	Client Info		494668	483575	472891
Oil Age	mls	Client Info		11093	10684	10893
Filter Age	mls	Client Info		11093	10684	10893
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	20	11	14
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	4	3	4
Lead	ppm	ASTM D5185m	>25	1	<1	0
Copper	ppm	ASTM D5185m	>100	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	0	<1	<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

There is no indication of any contamination in the oil.

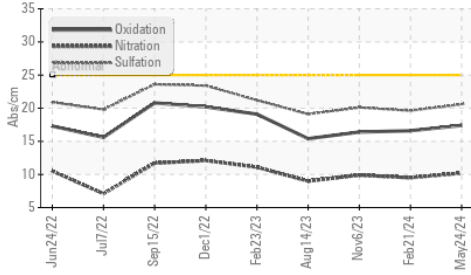
Silicon	ppm	ASTM D5185m	>25	6	6	5
Potassium	ppm	ASTM D5185m	>20	29	21	39
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.2	9.5	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	19.6	20.1
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

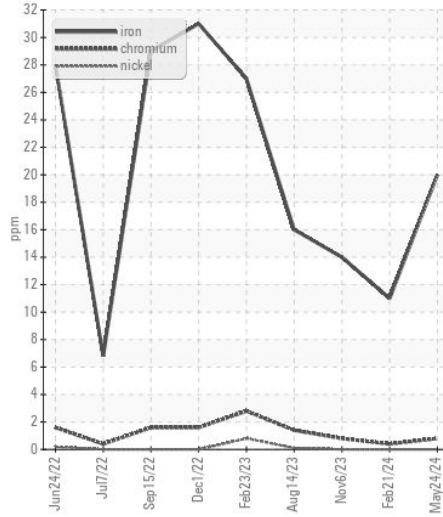
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		17	12	18
Boron	ppm	ASTM D5185m	0	3	8	11
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	61	61	62
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	942	926	918
Calcium	ppm	ASTM D5185m	1070	1094	1017	1001
Phosphorus	ppm	ASTM D5185m	1150	1014	1060	936
Zinc	ppm	ASTM D5185m	1270	1210	1264	1217
Sulfur	ppm	ASTM D5185m	2060	3229	2940	2840
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.4	16.6	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.3	7.2	7.2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.1	12.5

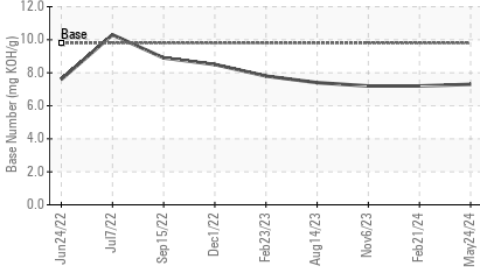
FT-IR (Direct Trend)



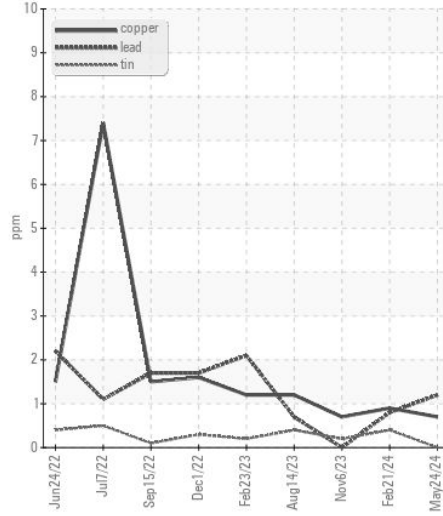
Ferrous Alloys



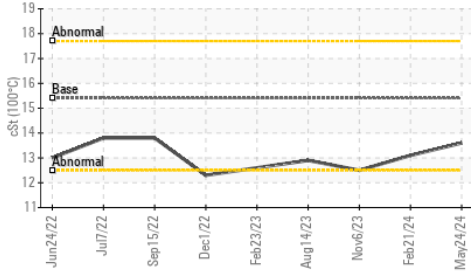
Base Number



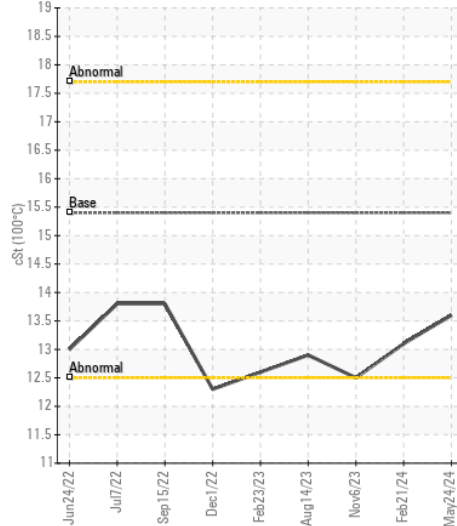
Non-ferrous Metals



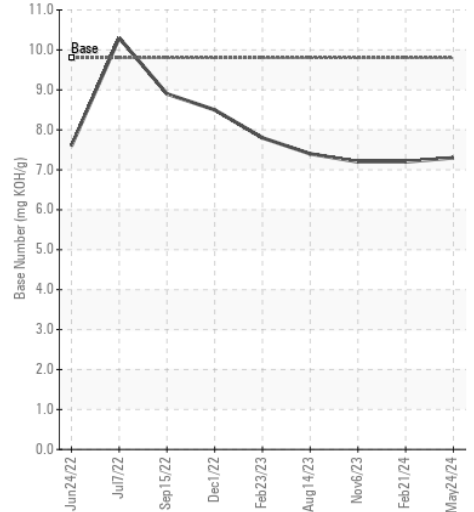
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0901445 **Received** : 30 May 2024
Lab Number : 06196132 **Tested** : 31 May 2024
Unique Number : 11058255 **Diagnosed** : 31 May 2024 - Wes Davis
Test Package : FLEET

HUMBOLDT TRANSIT AUTHORITY
 133 V ST
 EUREKA, CA
 US 95501
 Contact: Jim Wilson
 jim@hta.org
 T: (707)443-0828
 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)