



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
W/C
 Machine Id
[W/C] 510
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (18 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0901455	WC0843768	WC0788564
Sample Date		Client Info		05 Apr 2024	10 Jan 2024	24 Jul 2023
Machine Age	mls	Client Info		356669	346002	334407
Oil Age	mls	Client Info		10667	11595	11200
Filter Age	mls	Client Info		10667	11595	11200
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	>80	15	16	17
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	3	4	4
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>150	2	<1	2
Tin	ppm	ASTM D5185m	>5	0	<1	0
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.

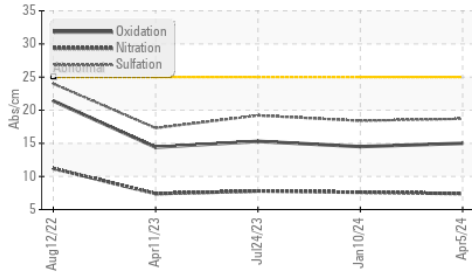
Silicon	ppm	ASTM D5185m	>20	4	4	3
Potassium	ppm	ASTM D5185m	>20	4	3	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.4	7.6	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.7	18.4	19.2
Silt	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

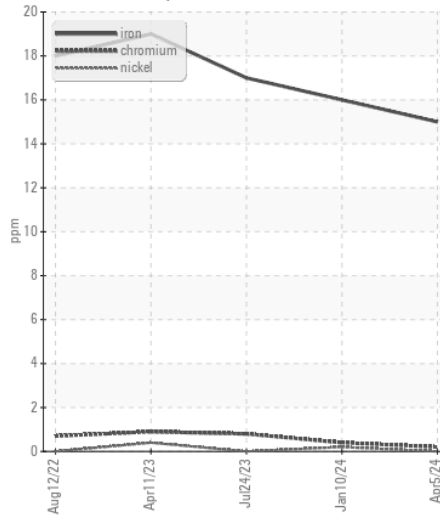
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	3	4
Boron	ppm	ASTM D5185m	0	7	13	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	64	63	65
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1065	975	1032
Calcium	ppm	ASTM D5185m	1070	1173	1081	1138
Phosphorus	ppm	ASTM D5185m	1150	1143	1105	1067
Zinc	ppm	ASTM D5185m	1270	1382	1316	1347
Sulfur	ppm	ASTM D5185m	2060	3633	3070	3545
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	14.5	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.5	7.6	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	12.8	12.5	13.1

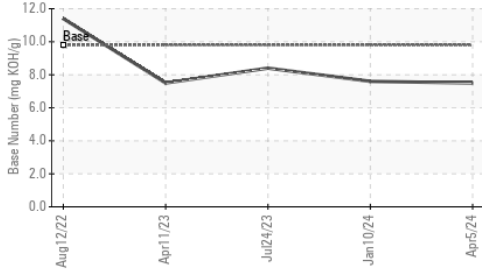
FT-IR (Direct Trend)



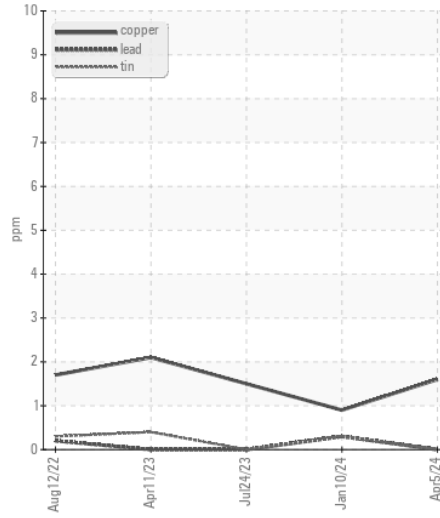
Ferrous Alloys



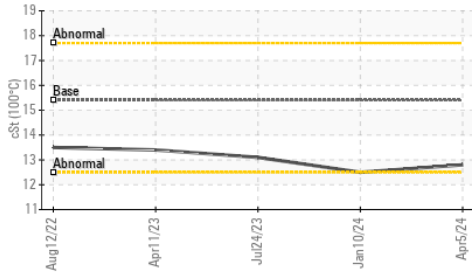
Base Number



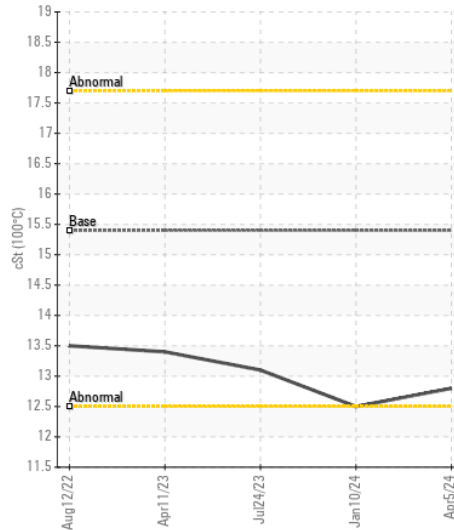
Non-ferrous Metals



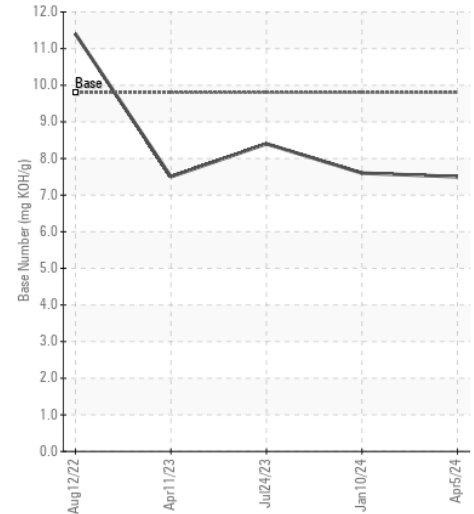
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0901455

Lab Number : 06149396

Unique Number : 10979474

Test Package : FLEET

Received : 15 Apr 2024

Tested : 16 Apr 2024

Diagnosed : 16 Apr 2024 - Wes Davis

HUMBOLDT TRANSIT AUTHORITY

133 V ST

EUREKA, CA

US 95501

Contact: Jim Wilson

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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)