



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
DT38
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0116153	PCA0090319	PCA0098261
Sample Date		Client Info		27 Jun 2024	07 Nov 2023	08 May 2023
Machine Age	mls	Client Info		210975	179319	155169
Oil Age	mls	Client Info		210975	25000	155169
Filter Age	mls	Client Info		0	25000	155169
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	27	21	25
Chromium	ppm	ASTM D5185m	>4	1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	10	9	9
Lead	ppm	ASTM D5185m	>45	0	0	<1
Copper	ppm	ASTM D5185m	>85	1	1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	1
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.

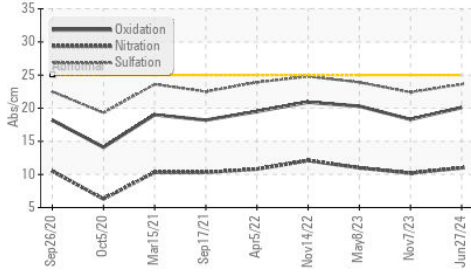
Silicon	ppm	ASTM D5185m	>30	7	7	7
Potassium	ppm	ASTM D5185m	>20	12	16	16
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.8	0.8
Nitration	Abs/cm	*ASTM D7624	>20	11.0	10.2	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.6	22.4	23.9
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

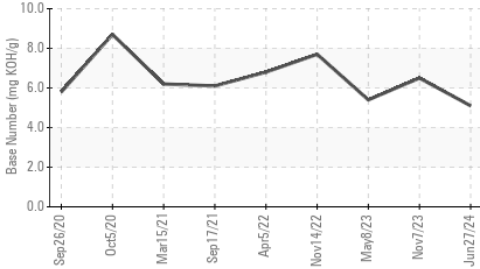
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	0	4
Boron	ppm	ASTM D5185m	2	4	2	4
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	50	63	68	72
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	950	1070	991	1030
Calcium	ppm	ASTM D5185m	1050	1349	1187	1142
Phosphorus	ppm	ASTM D5185m	995	1180	1020	1092
Zinc	ppm	ASTM D5185m	1180	1460	1328	1353
Sulfur	ppm	ASTM D5185m	2600	3723	2912	3471
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.1	18.3	20.3
Base Number (BN)	mg KOH/g	ASTM D2896		5.1	6.5	5.4
Visc @ 100°C	cSt	ASTM D445	12.00	11.4	11.6	11.2

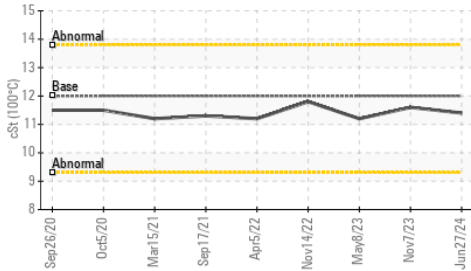
FT-IR (Direct Trend)



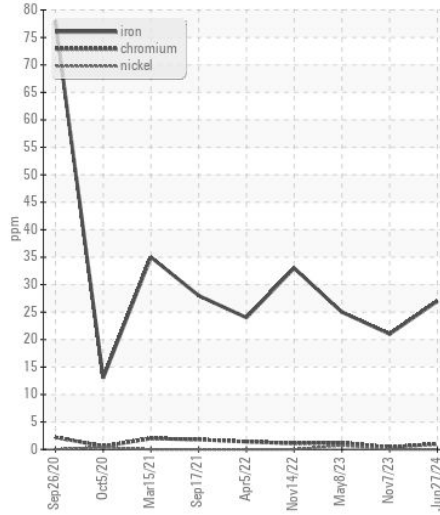
Base Number



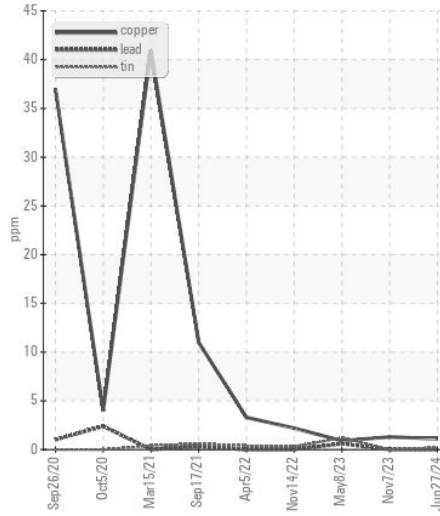
Viscosity @ 100°C



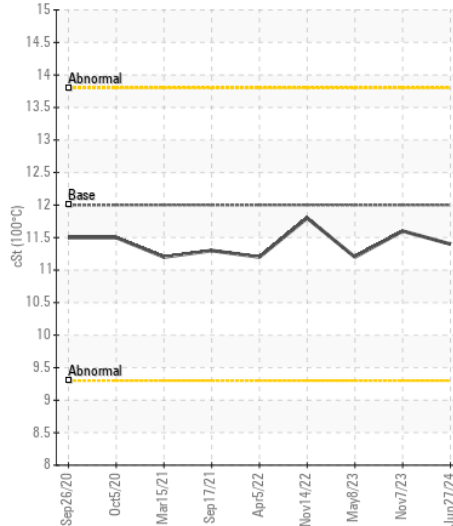
Ferrous Alloys



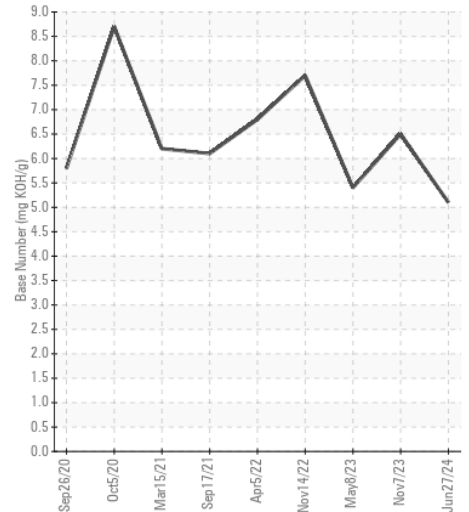
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : PCA0116153

Lab Number : 06224372

Unique Number : 11102569

Test Package : FLEET

Received : 01 Jul 2024

Tested : 02 Jul 2024

Diagnosed : 02 Jul 2024 - Jonathan Hester

HK STEEL INC

400 N PARSON ST

WEST COLUMBIA, SC

US 29169

Contact: GEORGE EDWARDS

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T:

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)