



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
821017-866
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (22 QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0110330	GFL0110331	GFL0110283
Sample Date		Client Info		19 Apr 2024	23 Mar 2024	04 Mar 2024
Machine Age	hrs	Client Info		16627	16616	16552
Oil Age	hrs	Client Info		580	599	535
Filter Age	hrs	Client Info		580	599	535
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	18	84	70
Chromium	ppm	ASTM D5185m	>5	1	6	5
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	3	3
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	1	2	2
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Sodium and/or potassium levels are high. Test for glycol is negative.

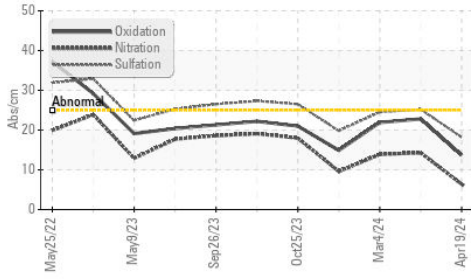
Silicon	ppm	ASTM D5185m	>20	7	24	22
Potassium	ppm	ASTM D5185m	>20	2	13	10
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	1.3	1.2
Nitration	Abs/cm	*ASTM D7624	>20	6.4	14.3	13.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.2	25.2	24.5
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

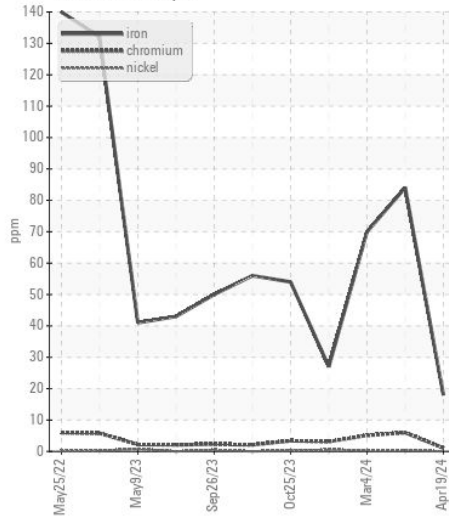
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		131	858	890
Boron	ppm	ASTM D5185m	0	12	19	12
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	60	89	89
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	849	905	828
Calcium	ppm	ASTM D5185m	1070	1070	1160	1064
Phosphorus	ppm	ASTM D5185m	1150	956	944	799
Zinc	ppm	ASTM D5185m	1270	1162	1235	1071
Sulfur	ppm	ASTM D5185m	2060	3284	3454	2619
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	22.8	21.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.7	7.9	7.9
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.2	12.7

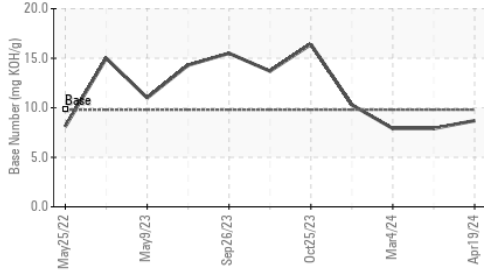
FT-IR (Direct Trend)



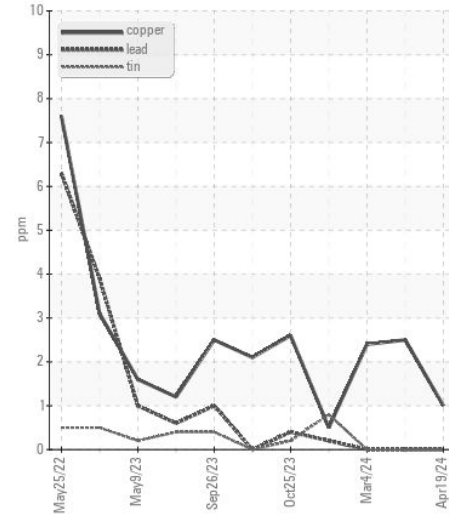
Ferrous Alloys



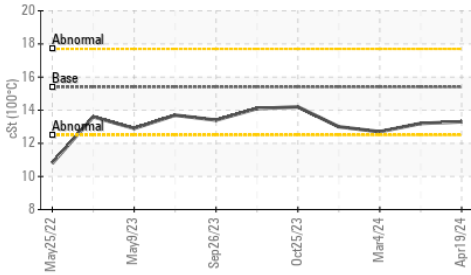
Base Number



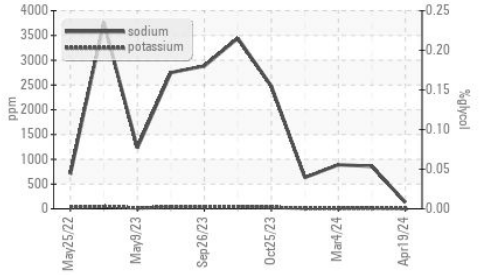
Non-ferrous Metals



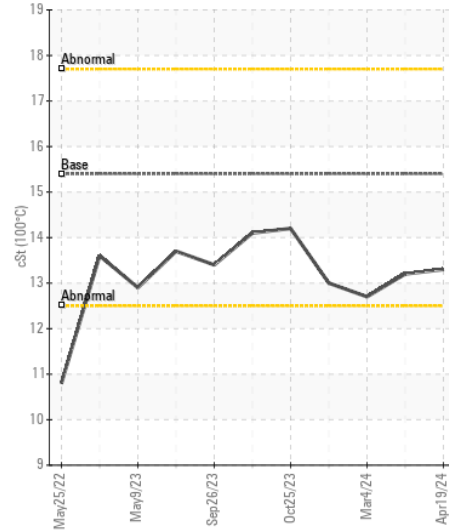
Viscosity @ 100°C



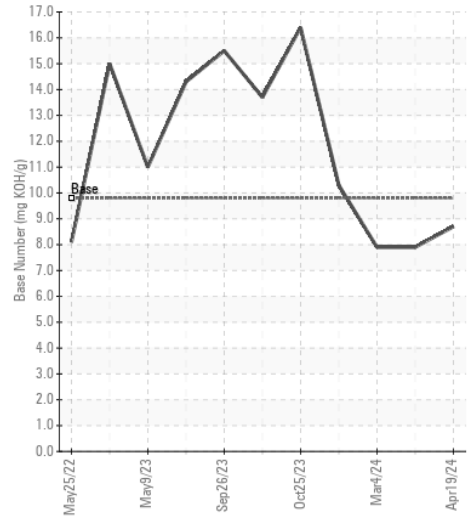
Glycol Contamination



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0110330 **Received** : 23 Apr 2024
Lab Number : 06158376 **Tested** : 25 Apr 2024
Unique Number : 10993799 **Diagnosed** : 25 Apr 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 622 - Traverse City Hauling
 160 Hughes Dr
 Traverse City, MI
 US 49686
 Contact: GARY BREWER

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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