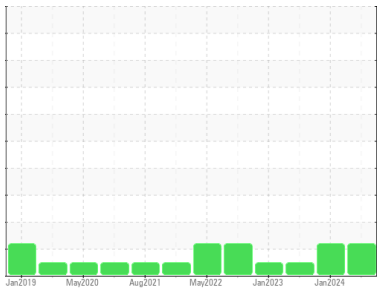
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
395378
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (18 QTS)

DIAGNOSIS

Recommendation
Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0121028**	PCA0113583	PCA0097795
Sample Date		Client Info		**10 May 2024**	10 Jan 2024	12 May 2023
Machine Age	mls	Client Info		**0**	221772	0
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**33**	43	13
Chromium	ppm	ASTM D5185m	>20	**<1**	0	0
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	1	1
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**<1**	<1	2
Tin	ppm	ASTM D5185m	>15	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**2**	11	27
Barium	ppm	ASTM D5185m	0	**0**	0	2
Molybdenum	ppm	ASTM D5185m	50	**76**	88	74
Manganese	ppm	ASTM D5185m	0	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	950	**1245**	1338	812
Calcium	ppm	ASTM D5185m	1050	**1418**	1747	1192
Phosphorus	ppm	ASTM D5185m	995	**1236**	1404	1014
Zinc	ppm	ASTM D5185m	1180	**1592**	1818	1184
Sulfur	ppm	ASTM D5185m	2600	**3927**	4247	3070

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	4	2
Sodium	ppm	ASTM D5185m		**29**	32	<1
Potassium	ppm	ASTM D5185m	>20	▲ **67**	▲ 71	19
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	0.6	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**14.0**	16.5	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.7**	29.8	20.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**25.8**	29.8	19.0
Base Number (BN)	mg KOH/g	ASTM D2896		**7.1**	5.7	7.8

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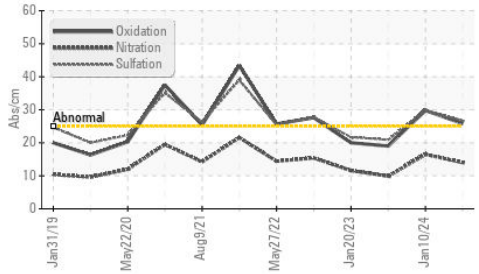
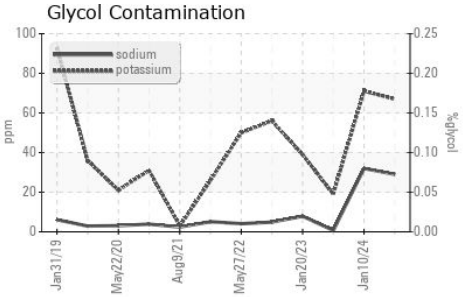
OIL ANALYSIS REPORT

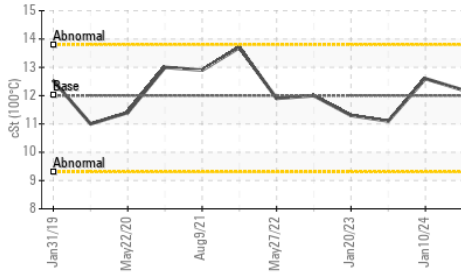
FT-IR (Direct Trend)



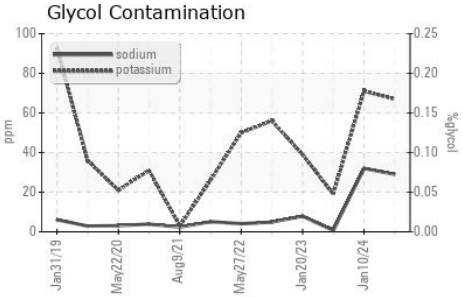
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

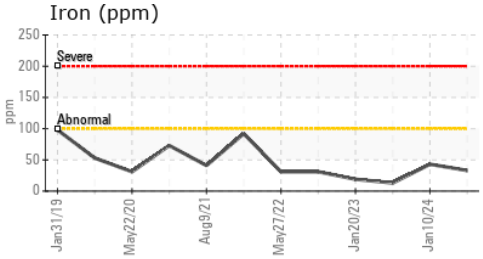


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

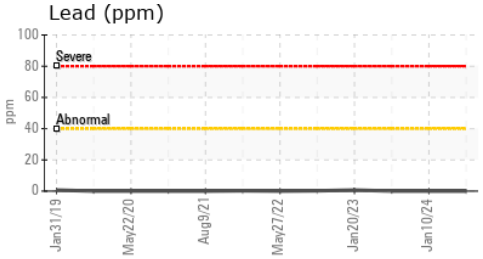
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**12.2**	12.6	11.1

GRAPHS

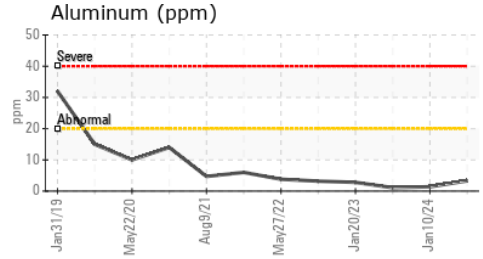
Iron (ppm)



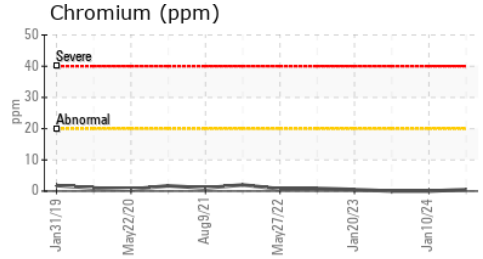
Lead (ppm)



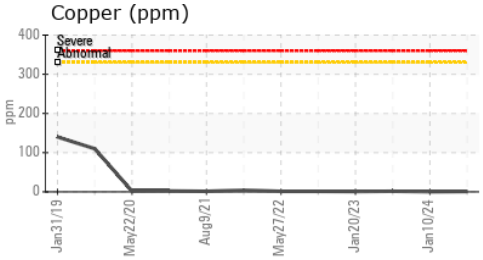
Aluminum (ppm)



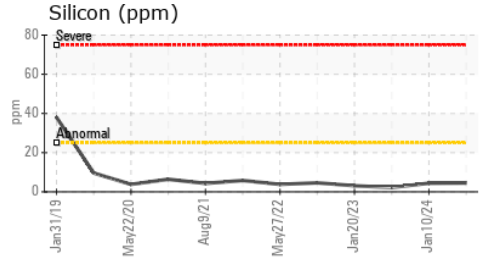
Chromium (ppm)



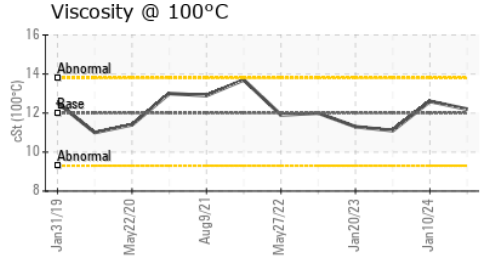
Copper (ppm)



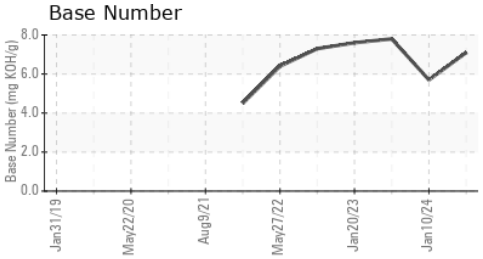
Silicon (ppm)



Viscosity @ 100°C



Base Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0121028
Lab Number : 06202444
Unique Number : 11069905
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Received : 07 Jun 2024
Tested : 11 Jun 2024
Diagnosed : 11 Jun 2024 - Sean Felton

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)

MILLER TRUCK LEASING #114
63 REPAUPO STATION ROAD
LOGAN TOWNSHIP, NJ
US 08085
Contact: ED DAVIS
edavis@millertransgroup.com
T: (856)214-3521
F: (856)214-3663