



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area
4000 series
 Machine Id
Navistar 4222
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (12 LTR)

RECOMMENDATION

Check for low coolant level. The oil 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		WC0904894	WC0879099	WC0828243
Sample Date		Client Info		10 Feb 2024	16 Nov 2023	04 Nov 2023
Machine Age	mls	Client Info		189547	287009	10881
Oil Age	mls	Client Info		12716	0	10881
Filter Age	mls	Client Info		12716	0	10881
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ATTENTION	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>130	92	18	94
Chromium	ppm	ASTM D5185(m)	>10	8	2	21
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	13	3	14
Lead	ppm	ASTM D5185(m)	>20	0	0	<1
Copper	ppm	ASTM D5185(m)	>125	5	2	19
Tin	ppm	ASTM D5185(m)	>4	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

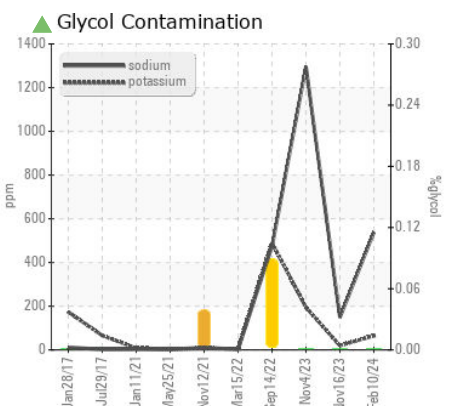
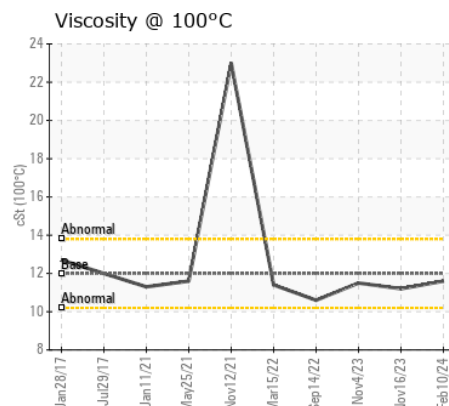
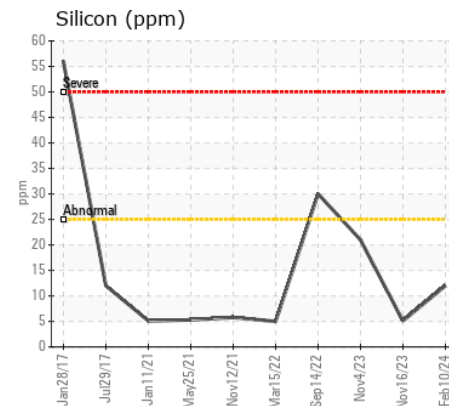
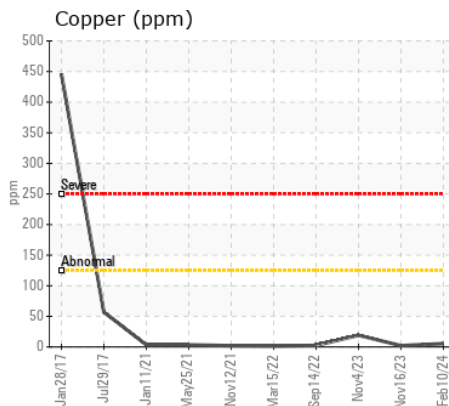
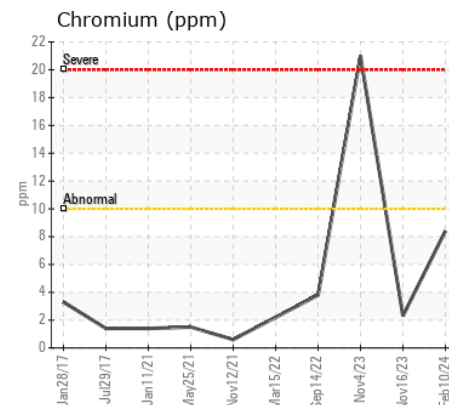
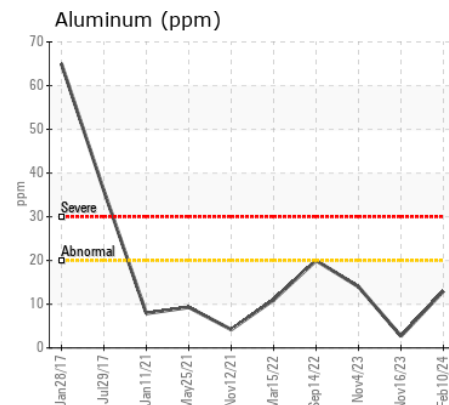
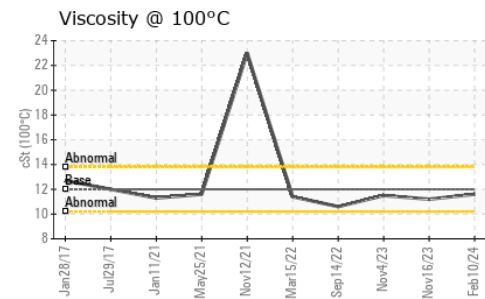
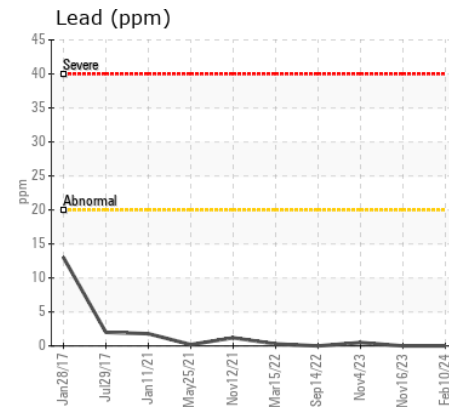
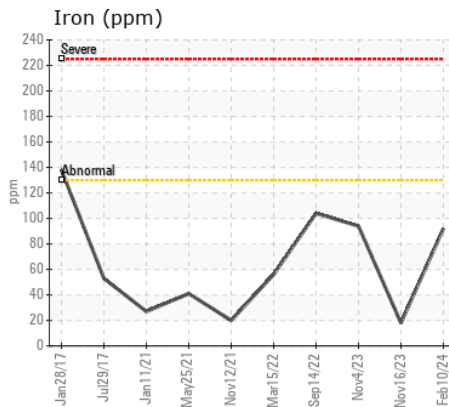
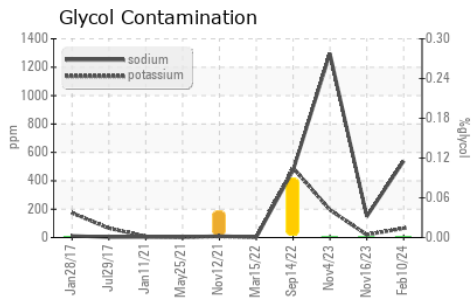
Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	12	5	21
Potassium	ppm	ASTM D5185(m)	>20	65	20	▲ 195
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	0.0
Soot %	%	ASTM D7844*	>6	0.9	0	0.4
Nitration	Abs/cm	ASTM D7624*	>20	13.8	5.9	13.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.5	18.4	21.4
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service (see recommendation).

Sodium	ppm	ASTM D5185(m)		▲ 538	149	▲ 1296
Boron	ppm	ASTM D5185(m)	2	9	12	▲ 27
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	50	78	58	67
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	950	965	915	715
Calcium	ppm	ASTM D5185(m)	1050	1163	1032	1169
Phosphorus	ppm	ASTM D5185(m)	995	995	971	▲ 663
Zinc	ppm	ASTM D5185(m)	1180	1223	1135	▲ 844
Sulfur	ppm	ASTM D5185(m)	2600	2780	2581	2489
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.7	13.6	17.3
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.6	11.2	11.5



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0904894
Lab Number : 02616894
Unique Number : 5734004
Test Package : MOB 1 (Additional Tests: Glycol, Visual)

Received : 21 Feb 2024
Tested : 22 Feb 2024
Diagnosed : 22 Feb 2024 - Kevin Marson

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.