



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id
2008 NOVA 149
Component
Rear Diesel Engine
Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0889037	WC0889169	WC0866490
Sample Date		Client Info		20 Mar 2024	06 Feb 2024	20 Dec 2023
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		8848	8994	9798
Filter Age	kms	Client Info		8848	8994	9798
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				MARGINAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	52	50	67
Chromium	ppm	ASTM D5185(m)	>5	2	2	2
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	0	0
Aluminum	ppm	ASTM D5185(m)	>15	7	8	▲ 16
Lead	ppm	ASTM D5185(m)	>25	0	<1	1
Copper	ppm	ASTM D5185(m)	>100	9	8	10
Tin	ppm	ASTM D5185(m)	>4	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

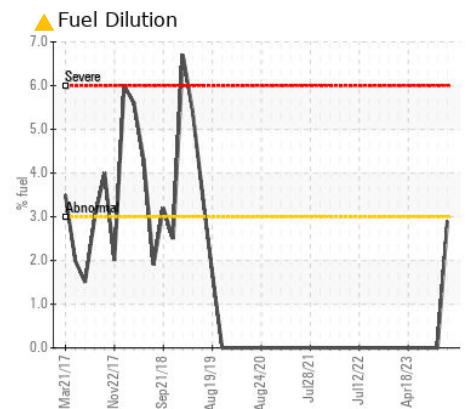
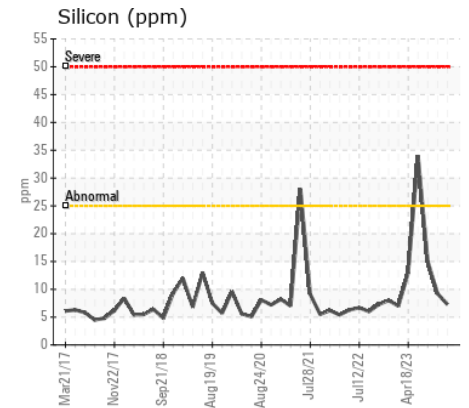
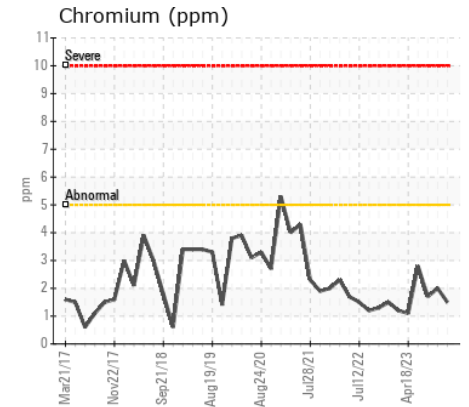
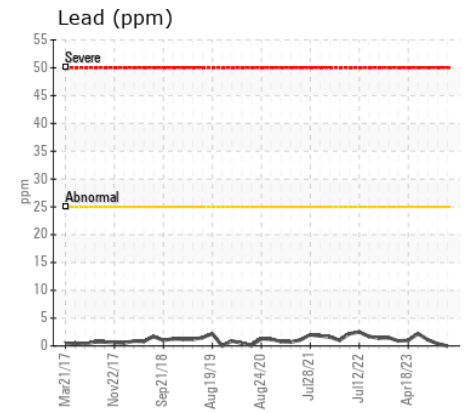
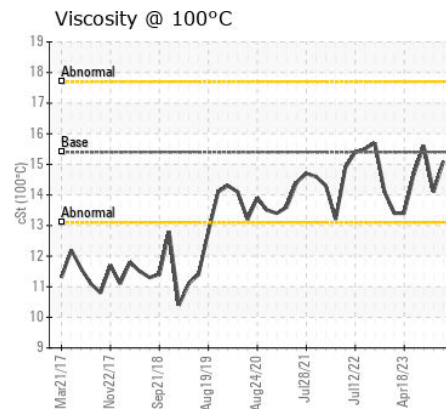
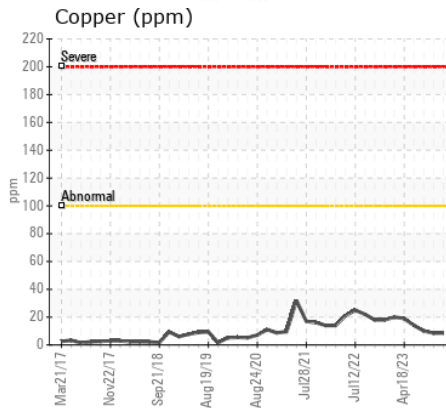
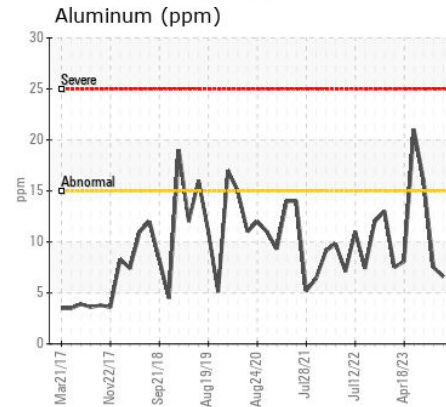
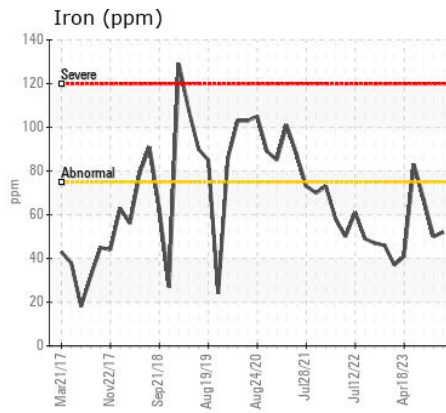
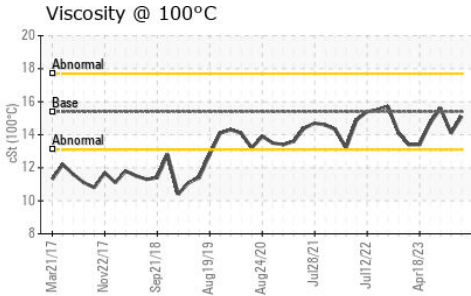
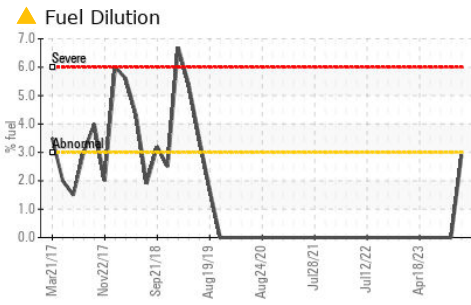
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>25	7	9	15
Potassium	ppm	ASTM D5185(m)	>20	8	8	9
Fuel	%	ASTM D7593*	>3.0	▲ 2.9	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>6	3.8	3.5	4.5
Nitration	Abs/cm	ASTM D7624*	>20	14.5	13.7	15.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	32.2	30.8	35.0
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>192	3	3	4
Boron	ppm	ASTM D5185(m)		71	67	56
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		<1	2	2
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		17	24	28
Calcium	ppm	ASTM D5185(m)	3780	2329	2210	2256
Phosphorus	ppm	ASTM D5185(m)	1370	950	934	953
Zinc	ppm	ASTM D5185(m)	1500	1185	1130	1159
Sulfur	ppm	ASTM D5185(m)	3800	2722	2846	2838
Oxidation	Abs/.1mm	ASTM D7414*	>25	24.8	22.8	26.8
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	15.1	14.1	15.6



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0889037
Lab Number : 02624917
Unique Number : 5750036
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)

Received : 27 Mar 2024
Tested : 28 Mar 2024
Diagnosed : 28 Mar 2024 - Kevin Marson

CITY OF THUNDER BAY
 AUTO MAINTENANCE STORES, 570 FORT WILLIAM ROAD
 THUNDER BAY, ON
 CA P7B 2Z8

Contact: Sean Malcolm
 sean.malcolm@thunderbay.ca
 T: (807)684-2716
 F: (807)344-0237

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.