



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
2008 NOVA 148
 Component
Rear Diesel Engine
 Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

RECOMMENDATION

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		WC0866650	WC0866536	WC0888969
Sample Date		Client Info		20 Jun 2024	21 May 2024	07 May 2024
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		8989	2796	9085
Filter Age	kms	Client Info		8989	2796	9085
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	MARGINAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	13	9	24
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	3	2	5
Lead	ppm	ASTM D5185(m)	>40	<1	0	<1
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

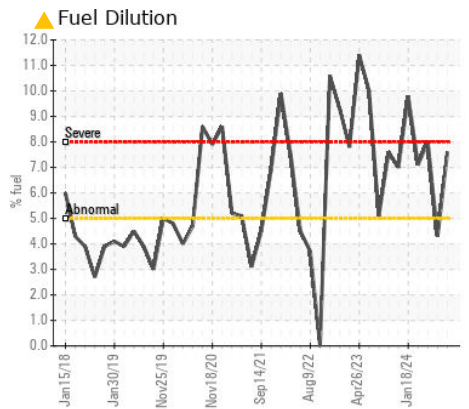
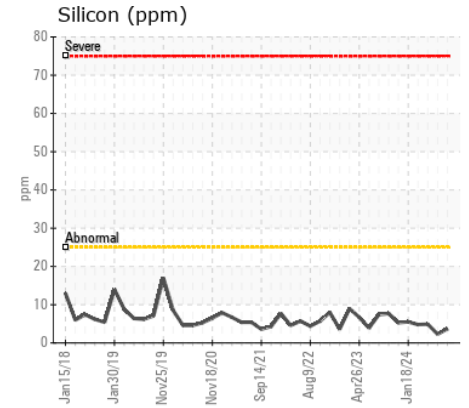
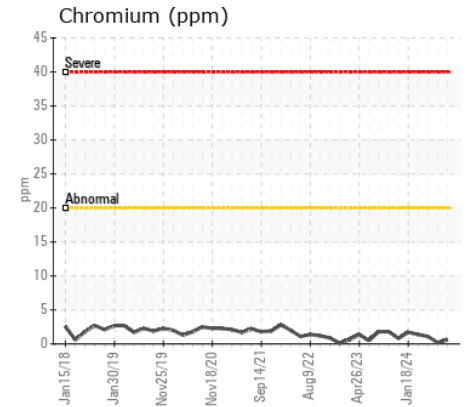
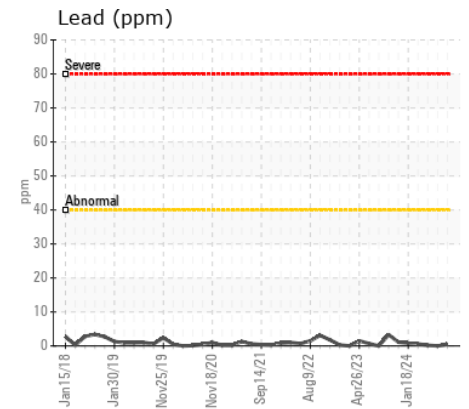
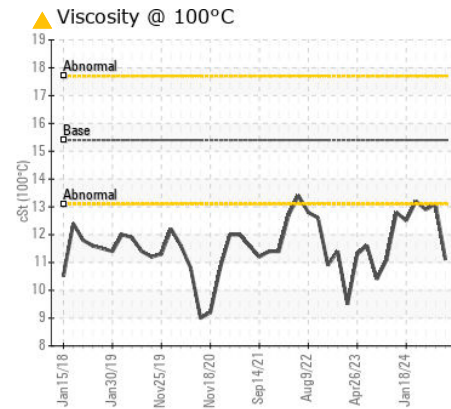
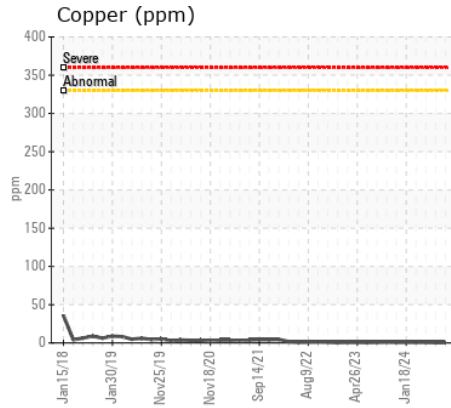
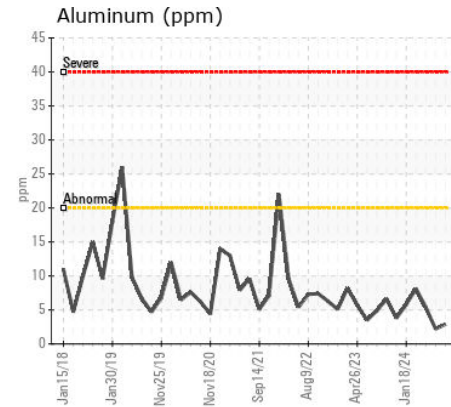
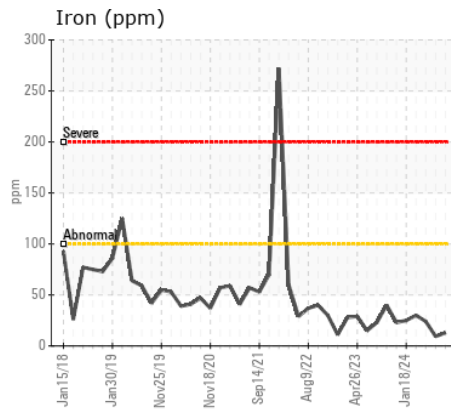
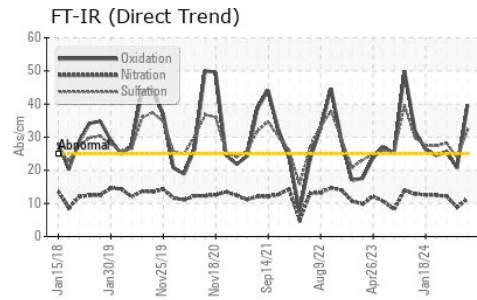
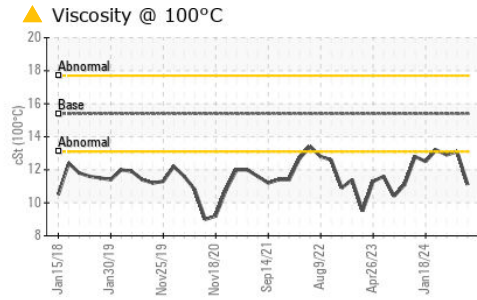
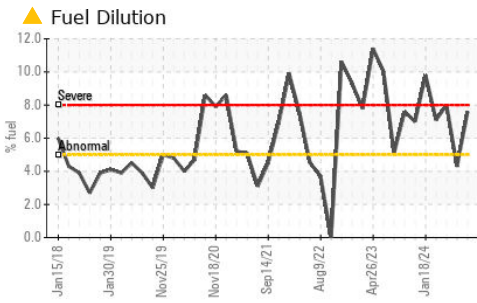
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	2	5
Potassium	ppm	ASTM D5185(m)	>20	7	6	8
Fuel	%	ASTM D7593*	>5	▲ 7.6	▲ 4.3	▲ 8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.6	0.4	1
Nitration	Abs/cm	ASTM D7624*	>20	11.4	8.8	12.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	32.2	23.9	28.2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>192	2	2	3
Boron	ppm	ASTM D5185(m)		83	121	77
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		<1	0	0
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		13	13	16
Calcium	ppm	ASTM D5185(m)	3780	2027	2259	2286
Phosphorus	ppm	ASTM D5185(m)	1370	879	970	985
Zinc	ppm	ASTM D5185(m)	1500	1070	1158	1191
Sulfur	ppm	ASTM D5185(m)	3800	2632	2858	2782
Oxidation	Abs/.1mm	ASTM D7414*	>25	39.7	20.7	25.6
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 11.1	13.1	12.9



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866650
Lab Number : 02645383
Unique Number : 5802922
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 04 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 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.