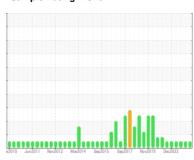


OIL ANALYSIS REPORT

Sample Rating Trend







NOVA 60050

Component

Rear Diesel Engine

VALVOLINE 15W40 (24 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

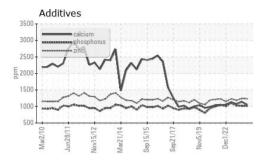
Fluid Condition

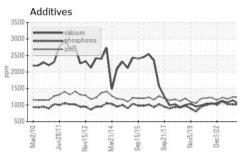
The condition of the oil is acceptable for the time in service.

				Sep2015 Sep2017 Nov2019	D652022	
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0887299	WC0887262	WC0809102
Sample Date		Client Info		19 Mar 2024	27 Dec 2023	21 Jun 2023
Machine Age	kms	Client Info		911368	899806	0
Oil Age	kms	Client Info		10000	10000	10000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	l	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	31	37	16
Chromium	ppm	ASTM D5185(m)	>5	1	2	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	6	5	2
Lead	ppm	ASTM D5185(m)	>25	<1	2	<1
Copper	ppm	ASTM D5185(m)	>100	2	3	3
Tin	ppm	ASTM D5185(m)	>4	0	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	39	2	3	2
Barium	ppm	ASTM D5185(m)	1	0	0	0
Molybdenum	ppm	ASTM D5185(m)	49	62	65	58
Manganese	ppm	ASTM D5185(m)	1	0	0	<1
Magnesium	ppm	ASTM D5185(m)	616	1009	1025	948
Calcium	ppm	ASTM D5185(m)	1554	1056	1140	1071
Phosphorus	ppm	ASTM D5185(m)	899	1016	1013	1026
Zinc	ppm	ASTM D5185(m)	1069	1233	1241	1184
Sulfur	ppm	ASTM D5185(m)	2624	2400	2644	2479
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	4	6	4
Sodium	ppm	ASTM D5185(m)		6	8	5
Potassium	ppm	ASTM D5185(m)	>20	<1	5	<1
			lineit/leeee	ourrent.	history1	history2
INFRA-RED		method	limit/base	current	HISTORY	HISTOLYZ
INFRA-RED Soot %	%	ASTM D7844*	>6	1	1.1	0.3
	% Abs/cm	ASTM D7844*	>6			•



OIL ANALYSIS REPORT





FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.2	21.9	16.7
VISUAL		method	limit/base	current	history1	history2
Emulsified Water Free Water	scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	NEG NEG
FLUID PROPER	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	13.6	13.9	13.9	14.1
GRAPHS						

GRAPHS	
Iron (ppm)	Lead (ppm)
Severe	50 Severe
	50 - Severie
Abnormal	E 20
~ ~ ~ ~	Abnormal 20
~ \\\ \\\	10
Mar2/10 Jun28/11 Nov15/12 Sep15/15 Sep21/17 Nov5/19	Mar2/10 Jun28/11 Nov15/12 Mar21/14 Sep15/15 Sep21/77 Doc5/19
Aluminum (ppm)	Chromium (ppm)
Severe	12 T
	10 - Q ^{Sevens}
Abnormal	E c
. 11	Abnomal 4
12 MV W/	2
V ~~~ V	
Mar2/10 Jun/28/11 Mar21/14 Sep15/15 Sep21/17 Dec1/22	Mar2/10 Jun28/11 Nov15/12 Sep15/15 Sep21/17 Nov5/19
Copper (ppm)	Silicon (ppm)
Severe	50 - Severe
- 0	40
	E 30 - Abnormal
Abnormal	20
\sim	10
7 2 4 5 6 6 7	
Mar2/10 Jun28/11 Nov15/12 Mar21/14 Sep15/15 Sep21/17 Sep21/17	Mar2/10 - Jun28/11 - Jun28/11 - Mar21/14 - Sep15/15 - Sep21/17 - Dec1/22 - Dec1/22 Dec1/22
Viscosity @ 100°C	Soot %
	8.0 Severe
Abnormal	7.0 - Abnormal
Base	0.0 7 4
V V V \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	* 5.0 5 4.0 3.0
gAbnormal — W	2.0
	1.0 1
Mar2/10 - Nov15/12 - Nov15/12 - Sep15/17 - Sep21/17 - Sep21/17 - Dec1/22 - D	0.000 Mar2/10 Mar2/10 Mar2/1/14 Mar2/1/14 Mar2/1/14 Mar2/1/14 Mar2/1/17 Mar2
Mar2/10 Jun28/11 Nov15/12 Sep15/15 Sep21/17 Nov5/19 Dec1/22	Mar2/10 Jun28/11 Nov15/12 Mar21/14 Sep15/15 Nov5/19 Dec1/22



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WC0887299

Lab Number : 02625517 Unique Number : 5750636 Test Package : MOB 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 01 Apr 2024 **Tested**

: 01 Apr 2024 Diagnosed : 01 Apr 2024 - Wes Davis **CITY OF PETERBOROUGH**

791 WEBBER AVENUE,, MUNICIPAL OPERATIONS CENTRE PETERBOROUGH, ON CA K9J 8N3

Contact: Frank Curran fcurran@peterborough.ca T: (705)742-7777

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.

F: (705)743-3223