



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
3121 KIRWIN
 Component
Diesel Engine
 Fluid
PETRO CANADA XR 4 SAE 15W40 (--- LTR)

RECOMMENDATION

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

Metal levels are typical for a new component breaking in.

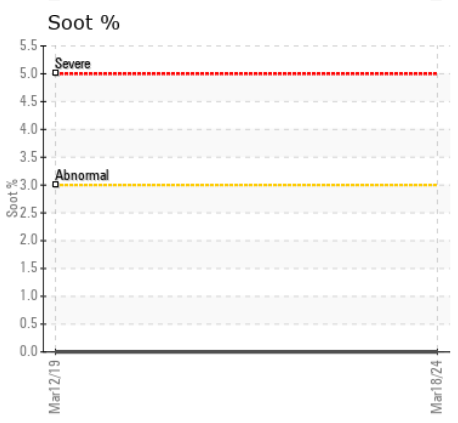
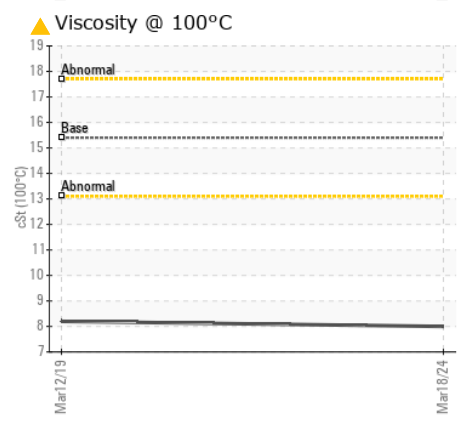
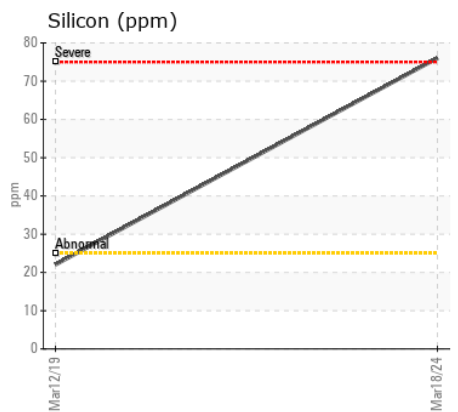
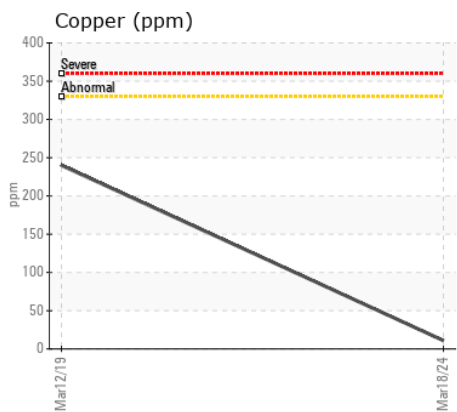
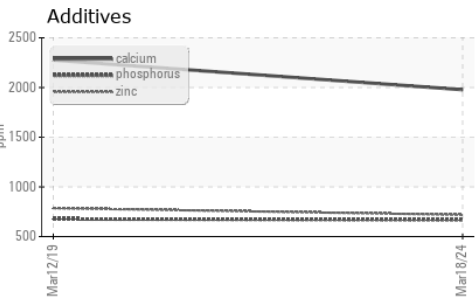
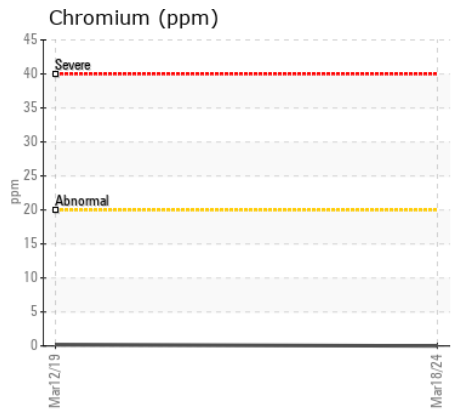
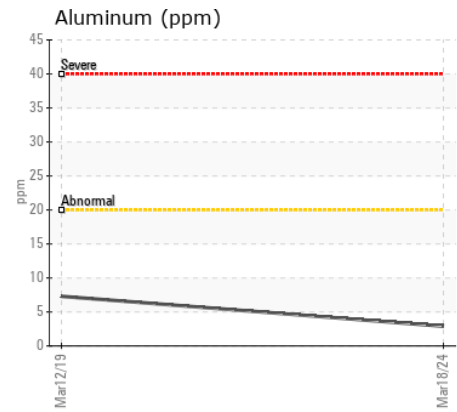
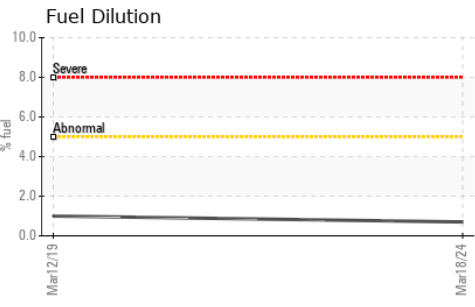
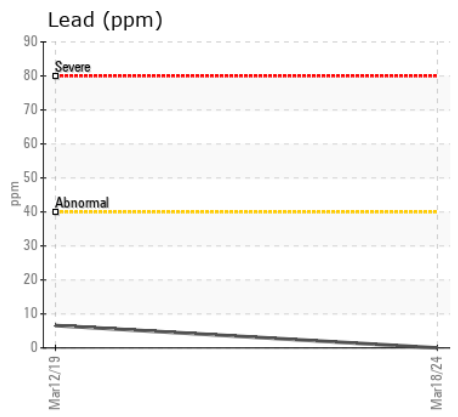
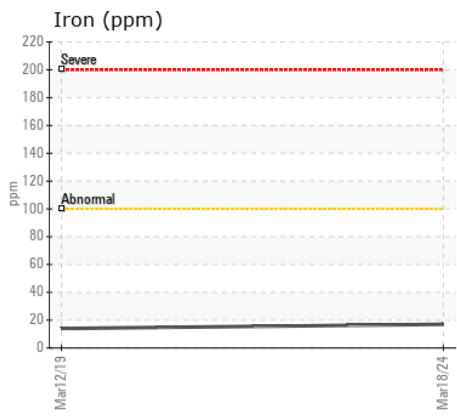
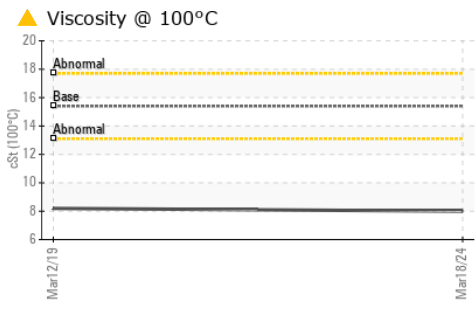
CONTAMINATION

Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 20 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0910608	WC0313547	---
Sample Date		Client Info		18 Mar 2024	12 Mar 2019	---
Machine Age	hrs	Client Info		14	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---
<hr/>						
Iron	ppm	ASTM D5185(m)	>100	17	14	---
Chromium	ppm	ASTM D5185(m)	>20	0	<1	---
Nickel	ppm	ASTM D5185(m)	>4	0	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)	>3	0	0	---
Aluminum	ppm	ASTM D5185(m)	>20	3	7	---
Lead	ppm	ASTM D5185(m)	>40	0	7	---
Copper	ppm	ASTM D5185(m)	>330	11	240	---
Tin	ppm	ASTM D5185(m)	>15	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
<hr/>						
Silicon	ppm	ASTM D5185(m)	>25	76	22	---
Potassium	ppm	ASTM D5185(m)	>20	8	22	---
Fuel	%	ASTM D7593*	>5	0.7	1	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	0.0	---
Soot %	%	ASTM D7844*	>3	0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	4.4	5.9	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	14.9	18.0	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---
<hr/>						
Sodium	ppm	ASTM D5185(m)		5	11	---
Boron	ppm	ASTM D5185(m)	1	187	7	---
Barium	ppm	ASTM D5185(m)	1	<1	81	---
Molybdenum	ppm	ASTM D5185(m)	1	71	40	---
Manganese	ppm	ASTM D5185(m)		2	8	---
Magnesium	ppm	ASTM D5185(m)	10	118	26	---
Calcium	ppm	ASTM D5185(m)	3032	1978	2276	---
Phosphorus	ppm	ASTM D5185(m)	1054	669	677	---
Zinc	ppm	ASTM D5185(m)	1332	718	786	---
Sulfur	ppm	ASTM D5185(m)	3985	2429	2765	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	8.2	12.1	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ 8.0	8.2	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0910608
Lab Number : 02625601
Unique Number : 5750720
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)
Received : 01 Apr 2024
Tested : 02 Apr 2024
Diagnosed : 02 Apr 2024 - Kevin Marson

NORTHERN GENERATOR CO. LTD.
 80 ASHBRIDGE CIRCLE., UNIT #1 & 2
 WOODBRIDGE, ON
 CA L4L 3R5
 Contact: Selome Afework
 selome@northerngenerator.com
 T: (905)264-9744
 F: (905)264-9714

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.