



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**135HILLCREST**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA XR 4 SAE 15W40 (--- LTR)**

## RECOMMENDATION

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0897593</b>	WC0768116	WC0515846
Sample Date		Client Info		<b>02 Feb 2024</b>	03 Feb 2023	26 Jan 2021
Machine Age	hrs	Client Info		<b>0</b>	0	189
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>3</b>	3	4
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>2</b>	3	<1
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	1	1
Copper	ppm	ASTM D5185(m)	>330	<b>1</b>	<1	2
Tin	ppm	ASTM D5185(m)	>15	<b>3</b>	<1	1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## CONTAMINATION

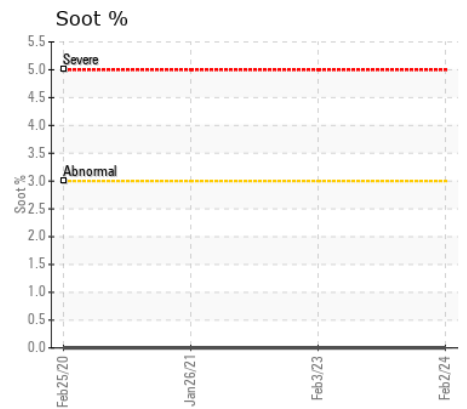
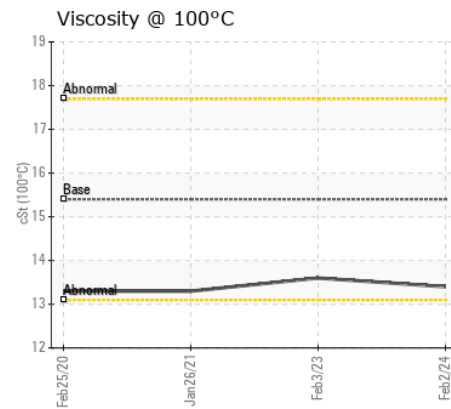
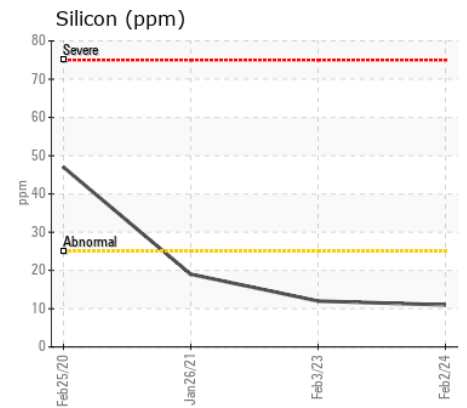
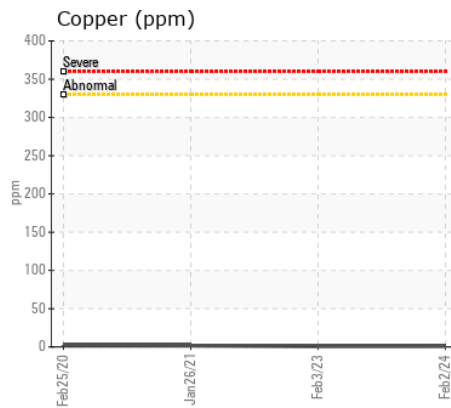
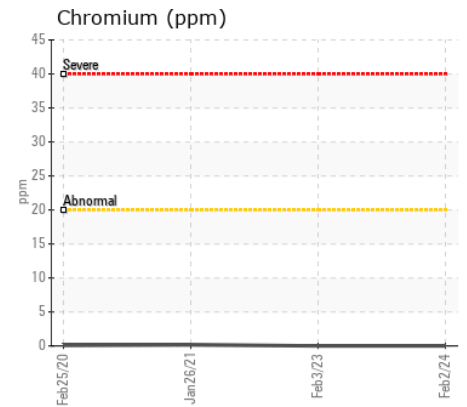
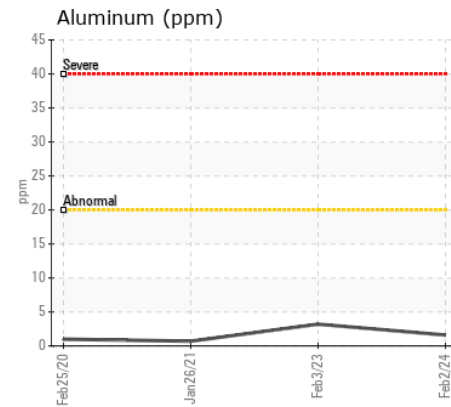
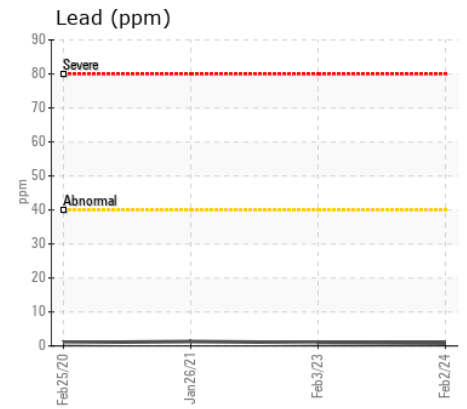
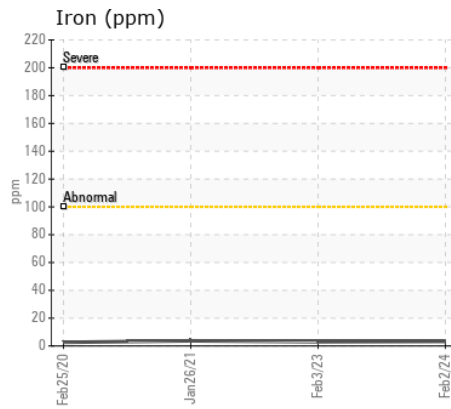
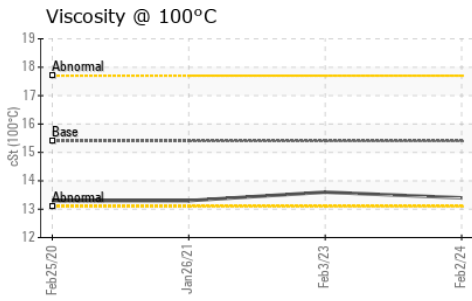
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>11</b>	12	19
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>4.5</b>	4.9	4.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.9</b>	24.7	18.9
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	2	3
Boron	ppm	ASTM D5185(m)	1	<b>41</b>	275	8
Barium	ppm	ASTM D5185(m)	1	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	1	<b>66</b>	109	59
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	10	<b>928</b>	688	985
Calcium	ppm	ASTM D5185(m)	3032	<b>1084</b>	1478	1039
Phosphorus	ppm	ASTM D5185(m)	1054	<b>1000</b>	776	1029
Zinc	ppm	ASTM D5185(m)	1332	<b>1096</b>	826	1246
Sulfur	ppm	ASTM D5185(m)	3985	<b>2850</b>	2183	2928
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>13.6</b>	15.2	13.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.4</b>	13.6	13.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0897593  
**Lab Number** : 02619227  
**Unique Number** : 5736337  
**Test Package** : MOB 1  
**Received** : 01 Mar 2024  
**Tested** : 01 Mar 2024  
**Diagnosed** : 01 Mar 2024 - Wes Davis

**NORTHERN GENERATOR CO. LTD.**  
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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.