

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

Machine Id

110 & 112 GEORGE

Component Diesel Engine Fluid PETRO CANADA XR 4 SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0910662	WC0810828	WC0678691
Sample Date		Client Info		07 May 2024	08 May 2023	08 May 2022
Machine Age	hrs	Client Info		0	354	332
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				MARGINAL	NORMAL	ABNORMAL
	_					-
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history?
		method		ounon	Thistory I	motoryz
Iron	ppm	ASTM D5185(m)	>100	2	2	2
Chromium	ppm	ASTM D5185(m)	>20	<1	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	1	<1
Lead	ppm	ASTM D5185(m)	>40	1	<1	2
Copper	ppm	ASTM D5185(m)	>330	7	4	6
Tin	ppm	ASTM D5185(m)	>15	1	<1	1
Antimony	ppm	ASTM D5185(m)		0	<1	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	historv1	history2
Deven			4		0	-
Borium	ppm	ACTM DE105(III)	1	<1	2	< 1
Darium	ppm	ASTM DE105(III)	1	0	0	0
Marganaga	ррп		I	57	dC	20
Manganese	ppm		10	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	10	937	926	913
Calcium	ppm	ASTM D5185(m)	3032	990	1065	A 998
Phosphorus	ppm	ASTM D5185(m)	1054	951	1049	974
Zinc	ppm	ASTM D5185(m)	1332	1130	1151	1130
Sultur	ppm	ASTM D5185(m)	3985	2680	2652	2758
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon		ACTM DE10E(m)	>25	2	13	4
	ppm	ASTIVI DOTOD(III)				
Sodium	ppm	ASTM D5185(m)		1	1	1
Sodium Potassium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20	1 <1	1 0	1 0
Sodium Potassium Fuel	ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	>20 >5	1 <1 ▲ 2.8	1 0 <1.0	1 0 ▲ 3.3
Sodium Potassium Fuel	ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	>20 >5	1 <1 ▲ 2.8	1 0 <1.0	1 0 ▲ 3.3
Sodium Potassium Fuel INFRA-RED	ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* method	>20 >5 limit/base	1 <1 ▲ 2.8 current	1 0 <1.0 history1	1 0 ▲ 3.3 history2
Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm % %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* method ASTM D7844*	>20 >5 limit/base >3	1 <1 ▲ 2.8 current 0	1 0 <1.0 history1 0	1 0 ▲ 3.3 history2 0
Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm % % Abs/cm	ASTM D3183(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* method ASTM D7844* ASTM D7624*	>20 >5 limit/base >3 >20	1 <1 ▲ 2.8 current 0 5.1	1 0 <1.0 history1 0 5.0	1 0 ▲ 3.3 history2 0 3.8



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OIL ANALYSIS REPORT





	FLUID DEGRADA	TION	method	limit/base	current	history i	nistory2	-
	Oxidation	Abs/.1mm	ASTM D7414*	>25	13.9	14.0	8.6	
	VISUAL		method	limit/base	current	history1	history2	2
	White Metal	scalar	Visual*	NONE	NONE			
	Yellow Metal	scalar	Visual*	NONE	NONE			
	Precipitate	scalar	Visual*	NONE	NONE			
	Silt	scalar	Visual*	NONE	NONE			
	Debris	scalar	Visual*	NONE	VLITE			
	Sand/Dirt	scalar	Visual*	NONE	NONE			
	Appearance	scalar	Visual*	NORML	NORML			
	Odor	scalar	Visual*	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG	
	Free Water	scalar	Visual*		NEG	NEG	NEG	
	FLUID PROPERT	IES	method	limit/base	current	history1	history2	2
	Visc @ 100°C	cSt	ASTM D7279(m)	15.4	12.6	13.6	12.3	
	GRAPHS							
25	Iron (ppm)				Lead (ppm)			
20	Severe			80	Severe			
₁₅	0			E 60				
ⁱⁿ 10	0 - Abnormal			¹² 40	Abnormal G		 	
5	0			20				
	2/20	8/22 -	3/23 .	7/24	2/20	3/22 -	3/23 -	1/24
	Jun	May	May	May	Jun	May	Mayi	May
	Aluminum (ppm)			50	Chromium (pj	om)		
4	0 - Severe			40	Severe		******	
m 3	0			E ³⁰	Abaamad			
<u></u> 2	0 - Abnormai			² 20	Abnormai		******************	
1	0			10				
	n5/21	y8/22	y8/23	y7/24	n5/21	y8/22	y8/23	y7/24
	Jun Ja	Ma	Ma	M	nuc - c	M	Ma	Ma
40	Copper (ppm)			80	Silicon (ppm)			
30				60				
۲ ۲ ۲	10			<u></u> 40				
10	10 -			20	Abnormal			
		2		0		2		+
	Jun2/2 Jan5/2	May8/2	May8/2	May7/2	Jun2/2	May8/2	May8/2	May7/2
	Viscosity @ 100°C	~	2	~	Fuel Dilution	2	~	~
2	0 Abnomal			10.0	Severe			
1 0 1	6 Bace			8.0	0	1		
200	4 Abnormal			<u>ه</u> 6.0 ۶ ² 4.0	Abnormal			
3	2-			2.0		\wedge		-
1		22	53		21	22		- 4
	Jun2/i	/lay8/2	/lay8/2	/lay7/2	Jan5/2	/lay8/2	/lay8/2	////www.
	· ·	~	~	~	-	2	~	4

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 NORTHERN GENERATOR CO. LTD. Laboratory CALA Sample No. : WC0910662 Received : 20 Jun 2024 80 ASHBRIDGE CIRCLE,, UNIT #1 & 2 Lab Number : 02643146 Tested : 21 Jun 2024 WOODBRIDGE, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5800685 Diagnosed : 21 Jun 2024 - Wes Davis CA L4L 3R5 Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual) Contact: Selome Afework To discuss this sample report, contact Customer Service at 1-800-268-2131. selome@northerngenerator.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (905)264-9744 Validity of results and interpretation are based on the sample and information as supplied. F: (905)264-9714

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Contact/Location: Selome Afework - NORWOO