MOB I

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
EPIROC ST7 SCP209
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

Iron ppm levels are abnormal. Aluminum ppm levels are noted. Cylinder, crank, or cam shaft wear is indicated.

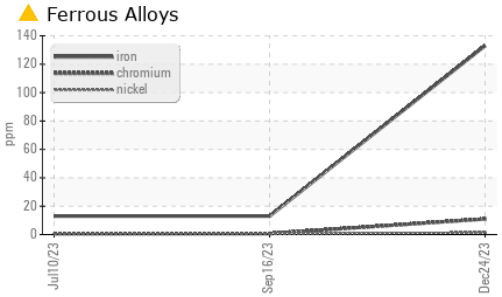
CONTAMINATION

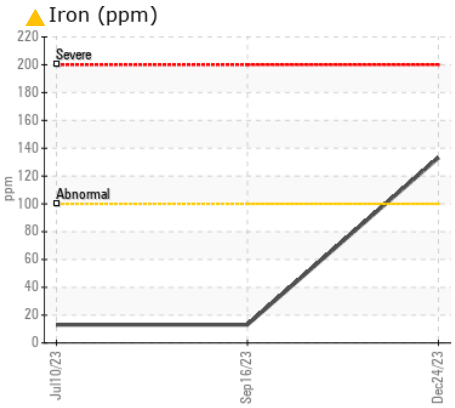
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

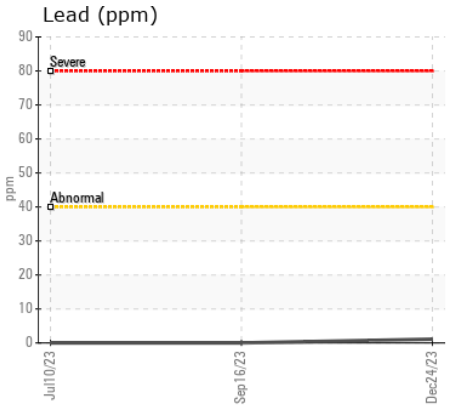
FLUID CONDITION

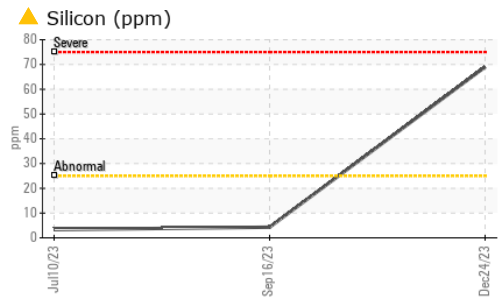
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

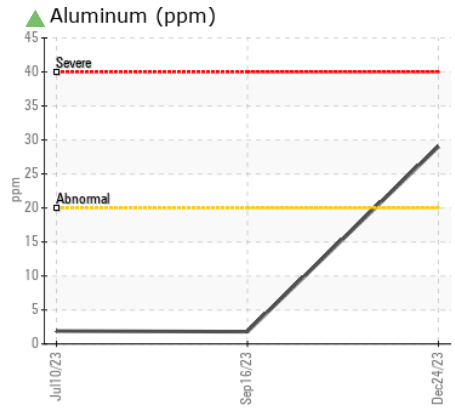
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0886140**	WC0848155	WC0826271
Sample Date		Client Info		**24 Dec 2023**	16 Sep 2023	10 Jul 2023
Machine Age	hrs	Client Info		**5831**	5505	5250
Oil Age	hrs	Client Info		**0**	250	250
Filter Age	hrs	Client Info		**0**	250	250
Oil Changed		Client Info		**Changed**	N/A	Changed
Filter Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL
PQ		ASTM D8184*		**23**	---	---
Iron	ppm	ASTM D5185(m)	>100	▲ **133**	13	13
Chromium	ppm	ASTM D5185(m)	>20	**11**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**<1**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	▲ **29**	2	2
Lead	ppm	ASTM D5185(m)	>40	**1**	0	0
Copper	ppm	ASTM D5185(m)	>330	**17**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**1**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Silicon	ppm	ASTM D5185(m)	>25	▲ **69**	4	3
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	7
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	ASTM D7844*	>3	**1.2**	1.1	1.2
Nitration	Abs/cm	ASTM D7624*	>20	**8.3**	8.2	9.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**23.9**	23.9	24.3
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185(m)		**8**	3	2
Boron	ppm	ASTM D5185(m)		**33**	45	124
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**43**	37	7
Manganese	ppm	ASTM D5185(m)		**1**	<1	<1
Magnesium	ppm	ASTM D5185(m)		**579**	460	45
Calcium	ppm	ASTM D5185(m)		**1675**	1787	2203
Phosphorus	ppm	ASTM D5185(m)		**786**	822	1032
Zinc	ppm	ASTM D5185(m)		**914**	922	1167
Sulfur	ppm	ASTM D5185(m)		**2229**	2179	2928
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.2**	20.0	17.8
Visc @ 100°C	cSt	ASTM D7279(m)		**14.2**	14.1	15.3

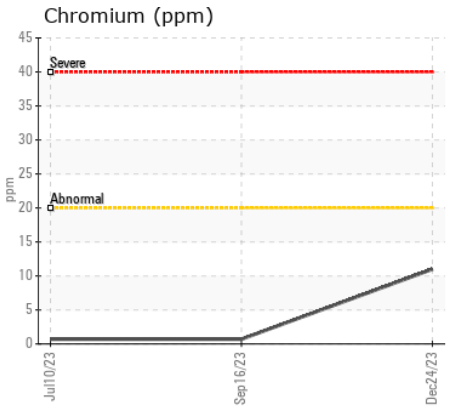


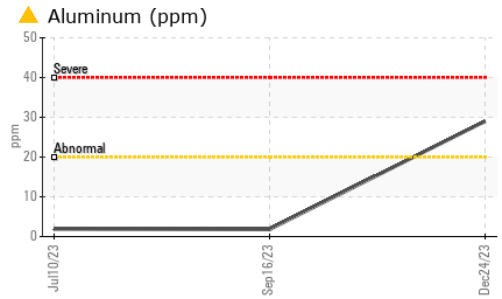


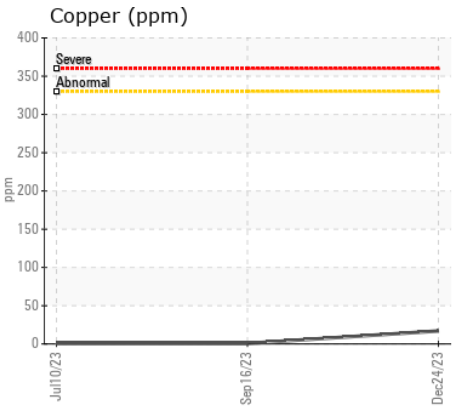


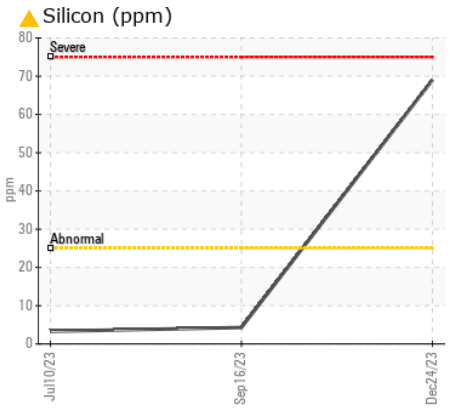


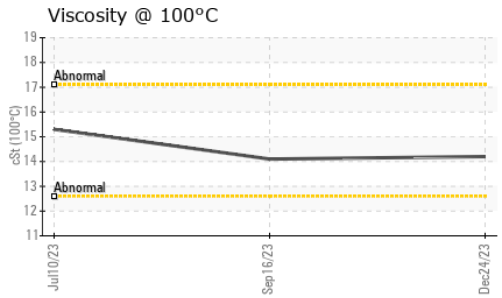


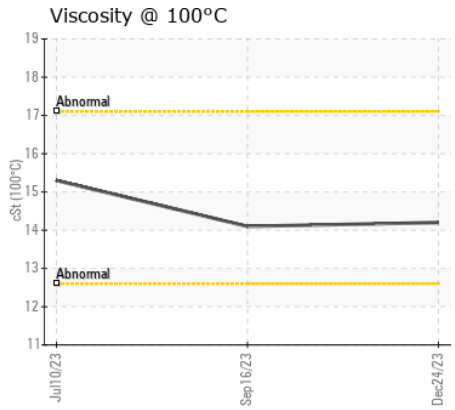


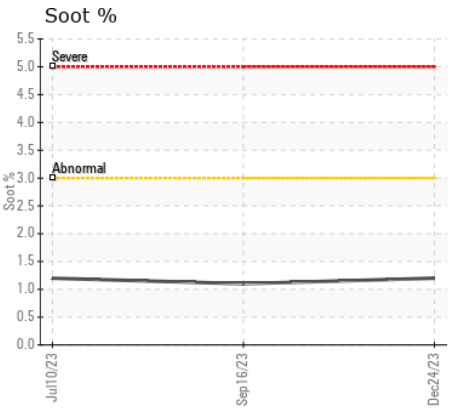


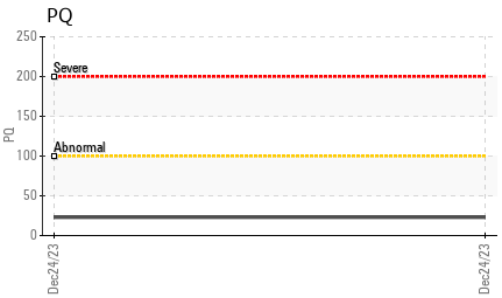












ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: WC0886140	**Recieved**	: 04 Jan 2024
Lab Number	: 02606507	**Diagnosed**	: 05 Jan 2024
Unique Number	: 5707593	**Diagnostician**	: Kevin Marson
Test Package	: MOB 1 (Additional Tests: PQ)		

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.

Agnico Eagle Canada
1350 Government Rd. W, MACASSA COMPLEX
Kirkland Lake, ON
CA P2N 3J1
Contact: Mike Campbell
mike.campbell@agnicoeagle.com
T: (705)567-5208
F: (705)567-5221