



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
CR 224 Gearbox

Component
Gearbox

Fluid
PETRO CANADA ENDURATEX EP 220 (200 LTR)

RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0844538	WC0844575	WC0750118
Sample Date		Client Info		09 Feb 2024	13 Oct 2023	27 Jun 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Filter Changed		Client Info		Not Changd	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>150	4	3	2
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>5	<1	0	<1
Lead	ppm	ASTM D5185(m)	>65	5	4	3
Copper	ppm	ASTM D5185(m)	>80	1	<1	<1
Tin	ppm	ASTM D5185(m)	>8	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

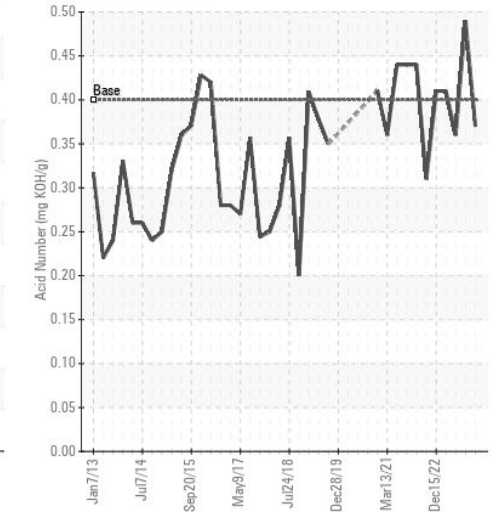
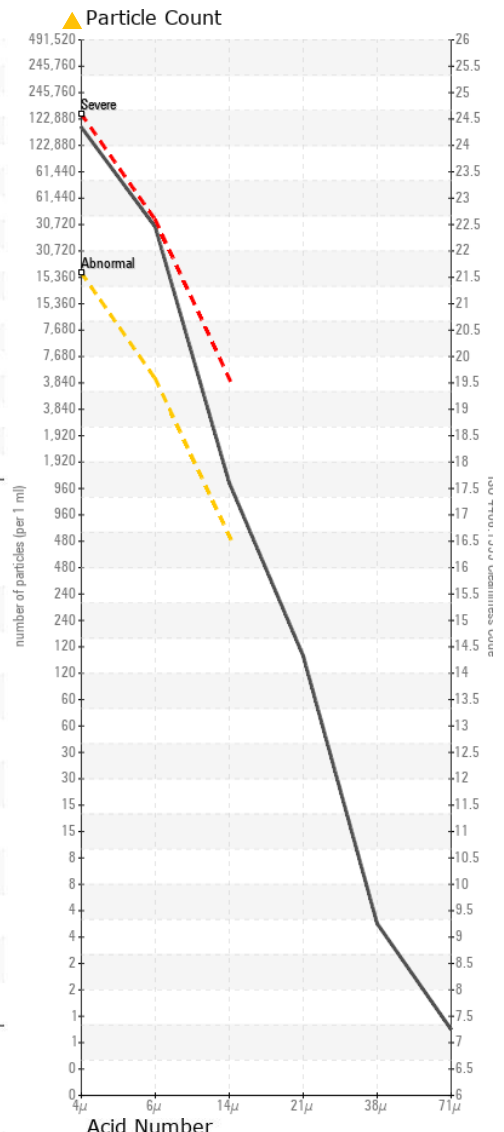
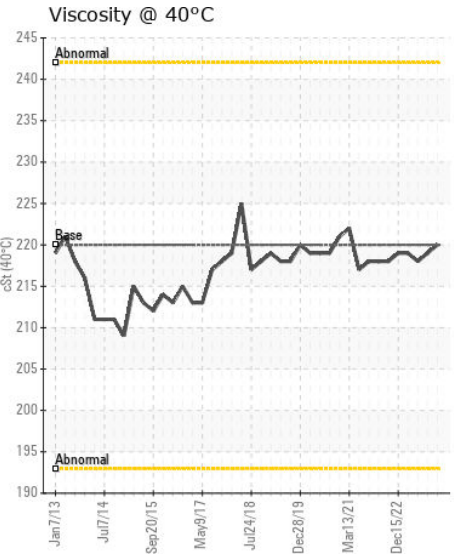
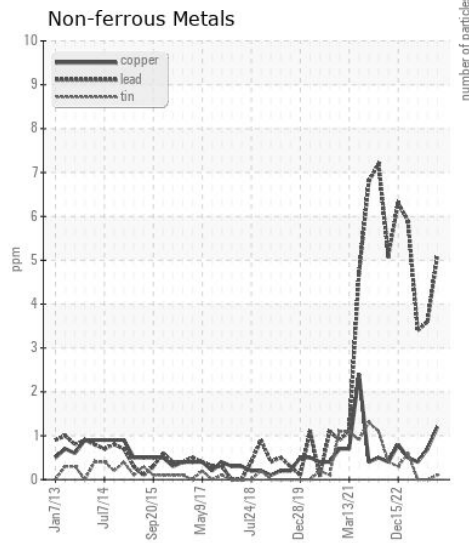
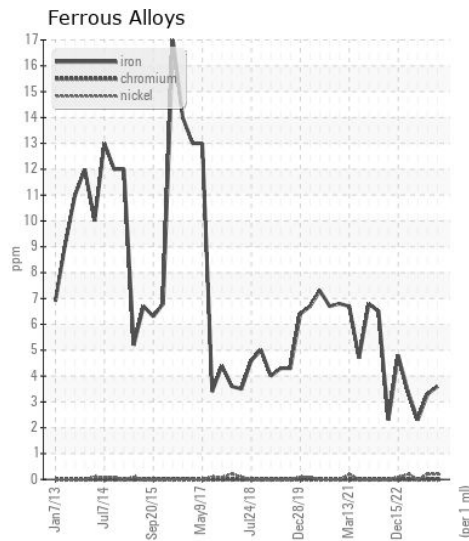
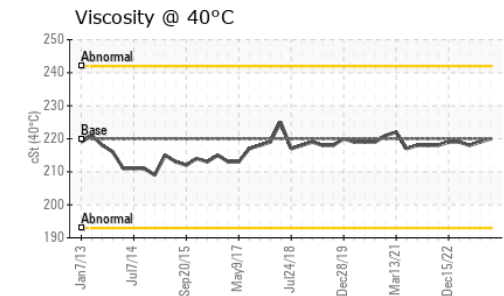
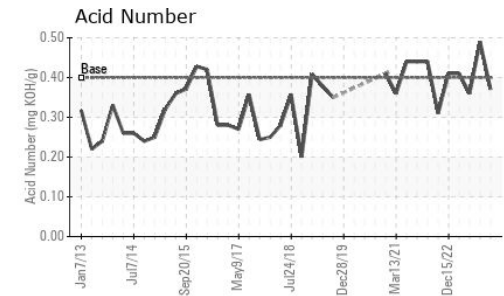
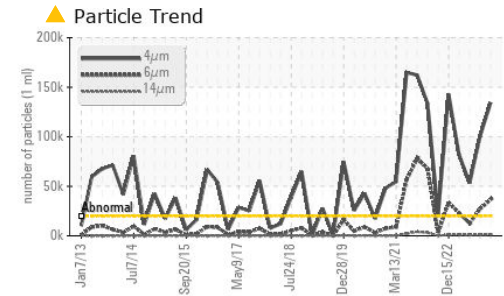
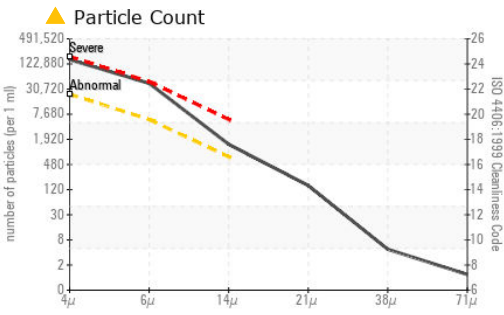
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	29	22	18
Potassium	ppm	ASTM D5185(m)	>20	<1	0	0
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 134453	▲ 100481	▲ 53307
Particles >6µm		ASTM D7647	>5000	▲ 36444	▲ 27077	▲ 12570
Particles >14µm		ASTM D7647	>640	● 1282	● 823	● 673
Particles >21µm		ASTM D7647	>160	133	117	165
Particles >38µm		ASTM D7647	>40	4	11	17
Particles >71µm		ASTM D7647	>10	1	5	13
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 24/22/17	▲ 24/22/17	▲ 23/21/17
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		1	1	<1
Boron	ppm	ASTM D5185(m)	60	59	61	64
Barium	ppm	ASTM D5185(m)	0	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	0	2	2	2
Phosphorus	ppm	ASTM D5185(m)	270	277	271	294
Zinc	ppm	ASTM D5185(m)	0	5	4	7
Sulfur	ppm	ASTM D5185(m)	11200	6805	6451	7006
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	0.37	0.49	0.36
Visc @ 40°C	cSt	ASTM D7279(m)	220	220	219	218



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0844538 **Received** : 29 Feb 2024
Lab Number : 02619067 **Tested** : 01 Mar 2024
Unique Number : 5736177 **Diagnosed** : 01 Mar 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: PrtCount)

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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.