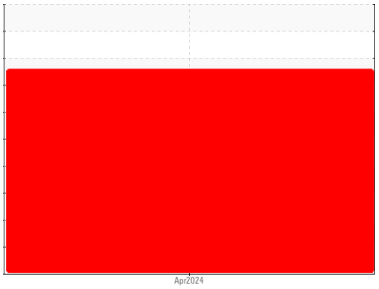
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
CR256
Component
Auxiliary Winch
Fluid
PETRO CANADA ENDURATEX EP 220 (--- LTR)

DIAGNOSIS

Recommendation
We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
PQ levels are abnormal. Iron ppm levels are abnormal. Aluminum ppm levels are noted. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

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
Viscosity of sample indicates oil is within SAE 5W40 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0087912**	---	---
Sample Date		Client Info		**20 Apr 2024**	---	---
Machine Age	hrs	Client Info		**8727**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**Not Changd**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		▲ **942**	---	---
Iron	ppm	ASTM D5185(m)	>150	▲ **319**	---	---
Chromium	ppm	ASTM D5185(m)	>10	**10**	---	---
Nickel	ppm	ASTM D5185(m)	>10	**0**	---	---
Titanium	ppm	ASTM D5185(m)		**<1**	---	---
Silver	ppm	ASTM D5185(m)		**0**	---	---
Aluminum	ppm	ASTM D5185(m)	>5	**7**	---	---
Lead	ppm	ASTM D5185(m)	>15	**0**	---	---
Copper	ppm	ASTM D5185(m)	>80	**5**	---	---
Tin	ppm	ASTM D5185(m)		**0**	---	---
Antimony	ppm	ASTM D5185(m)	>5	**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	60	**3**	---	---
Barium	ppm	ASTM D5185(m)	0	**4**	---	---
Molybdenum	ppm	ASTM D5185(m)	0	● **46**	---	---
Manganese	ppm	ASTM D5185(m)	0	**7**	---	---
Magnesium	ppm	ASTM D5185(m)	0	● **4905**	---	---
Calcium	ppm	ASTM D5185(m)	0	**49**	---	---
Phosphorus	ppm	ASTM D5185(m)	270	● **971**	---	---
Zinc	ppm	ASTM D5185(m)	0	● **726**	---	---
Sulfur	ppm	ASTM D5185(m)	11200	● **3502**	---	---
Lithium	ppm	ASTM D5185(m)		**5**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	▲ **62**	---	---
Sodium	ppm	ASTM D5185(m)		**3**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	**2.03**	---	---

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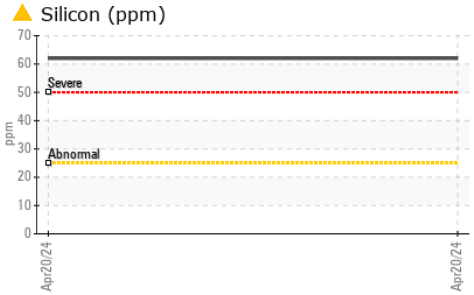
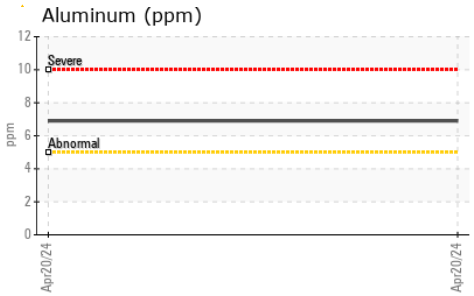
Viscosity @ 100°C

Silicon (ppm)

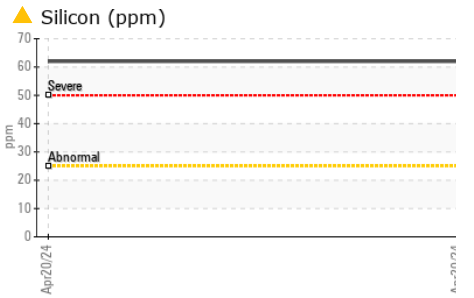


Additives

Aluminum (ppm)

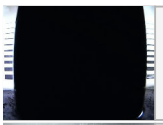


Silicon (ppm)



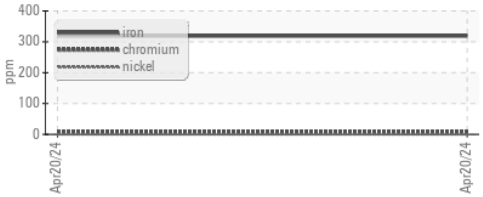
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**LIGHT**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.2	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	▲ **103**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	19.35	▲ **15.2**	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	99	▲ **155**	---	---

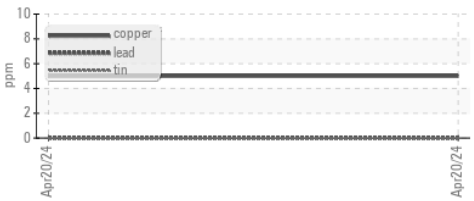
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

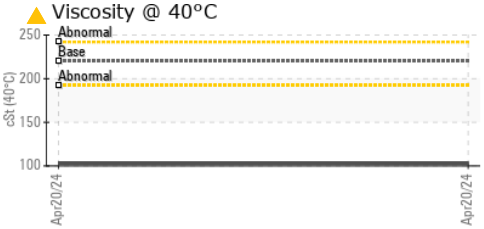
Ferrous Alloys



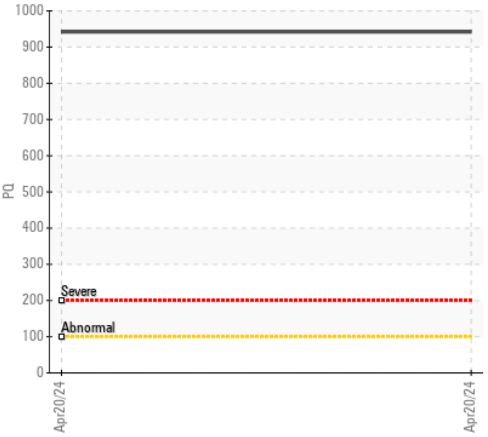
Non-ferrous Metals



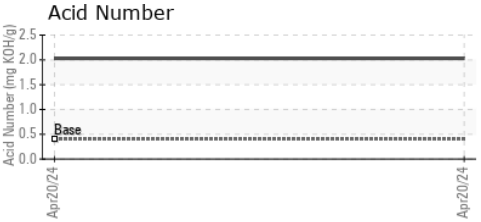
Viscosity @ 40°C



PQ



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0087912
Lab Number : 02631371
Unique Number : 5772524
Test Package : IND 2 (Additional Tests: KV100, TAN Man, VI)

Received : 25 Apr 2024
Tested : 26 Apr 2024
Diagnosed : 26 Apr 2024 - Kevin Marson

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.

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