

PROBLEM SUMMARY

Sample Rating Trend

OFF SPEC



Machine Id
1621-5521-6002

Component
Gearbox
Fluid

PETRO CANADA ENDURATEX EP 220 (--- GAL)



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Particles >4µm	ASTM D7647	>20000	▲ 130074	---	---	---
Particles >6µm	ASTM D7647	>5000	▲ 31162	---	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/22/14	---	---	---
Viscosity Index (VI)	Scale	ASTM D2270* 99	▲ 153	---	---	---

Customer Id: INCVOS
Sample No.: PC0070128
Lab Number: 02578547
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
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RECOMMENDED ACTIONS

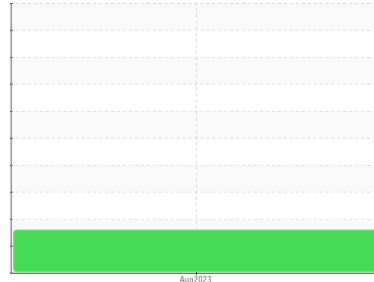
Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

HISTORICAL DIAGNOSIS

Machine Id
1621-5521-6002

Component
Gearbox
Fluid

PETRO CANADA ENDURATEX EP 220 (--- GAL)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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

All component wear rates are normal.

Contamination

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

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.

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PC0070128	---	---
Sample Date	Client Info	12 Aug 2023	---	---
Machine Age	hrs	Client Info	0	---
Oil Age	hrs	Client Info	0	---
Oil Changed	Client Info	N/A	---	---
Sample Status		ABNORMAL	---	---

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>200	8	---
Chromium	ppm	ASTM D5185(m)	>15	0	---
Nickel	ppm	ASTM D5185(m)	>15	0	---
Titanium	ppm	ASTM D5185(m)		0	---
Silver	ppm	ASTM D5185(m)		0	---
Aluminum	ppm	ASTM D5185(m)	>25	<1	---
Lead	ppm	ASTM D5185(m)	>100	0	---
Copper	ppm	ASTM D5185(m)	>200	<1	---
Tin	ppm	ASTM D5185(m)	>25	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	20	---	---
Barium	ppm	ASTM D5185(m)	0	0	---	---
Molybdenum	ppm	ASTM D5185(m)	0	0	---	---
Manganese	ppm	ASTM D5185(m)	0	0	---	---
Magnesium	ppm	ASTM D5185(m)	0	<1	---	---
Calcium	ppm	ASTM D5185(m)	0	5	---	---
Phosphorus	ppm	ASTM D5185(m)	270	336	---	---
Zinc	ppm	ASTM D5185(m)	0	6	---	---
Sulfur	ppm	ASTM D5185(m)	11200	6011	---	---
Lithium	ppm	ASTM D5185(m)		3	---	---

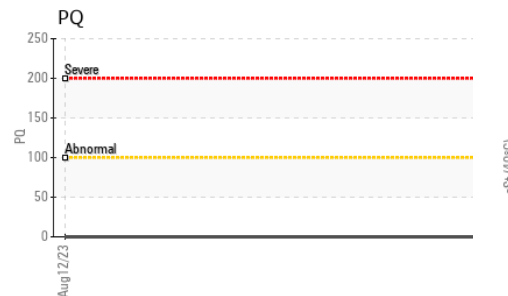
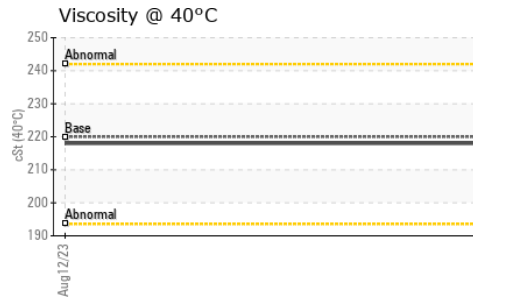
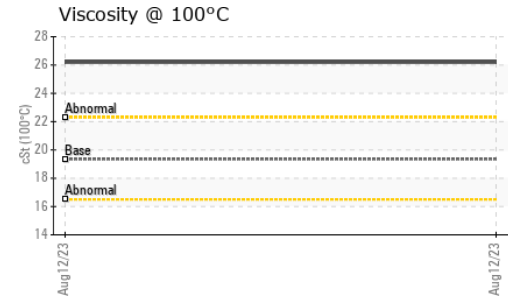
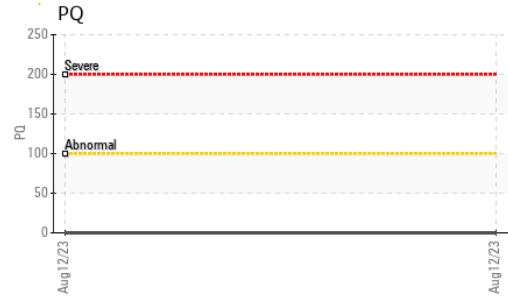
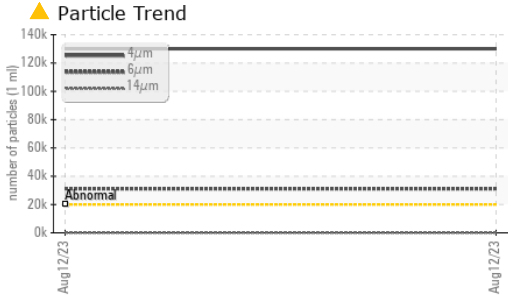
CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m)	>50	4	---	---
Sodium	ppm	ASTM D5185(m)		<1	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---

FLUID CLEANLINESS method limit/base current history1 history2

Particles >4µm	ASTM D7647	>20000	▲ 130074	---	---
Particles >6µm	ASTM D7647	>5000	▲ 31162	---	---
Particles >14µm	ASTM D7647	>640	132	---	---
Particles >21µm	ASTM D7647	>160	10	---	---
Particles >38µm	ASTM D7647	>40	1	---	---
Particles >71µm	ASTM D7647	>10	1	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/22/14	---	---

OIL ANALYSIS REPORT



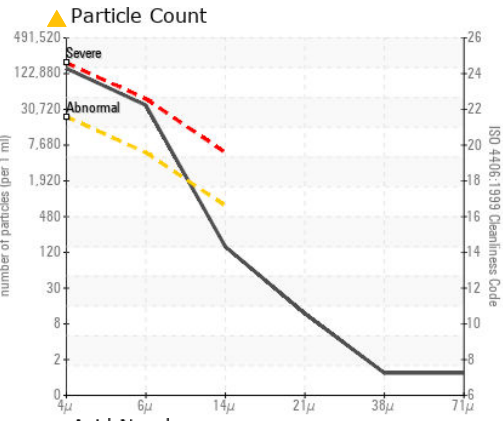
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	0.94	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	---	---
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	218	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	19.35	26.2	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	99	▲ 153	---	---

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0070128 **Received** : 25 Aug 2023
Lab Number : **02578547** **Diagnosed** : 29 Aug 2023
Unique Number : 5631607 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, VI)

Vale - Voisey's Bay
 Voisey's Bay Mine Site, P.O. Box 7001, Stn. C Happy Valley
 Goose Bay, NL
 CA A0P 1C0
 Contact: Harman Garg
 harman.garg@accenture.com

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.

T:
F: