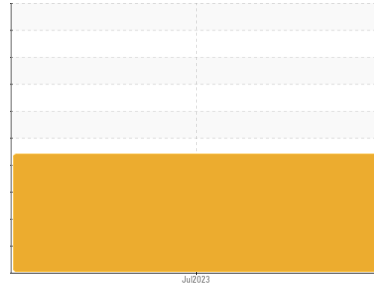




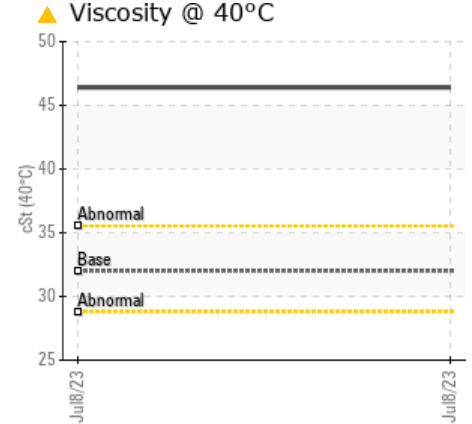
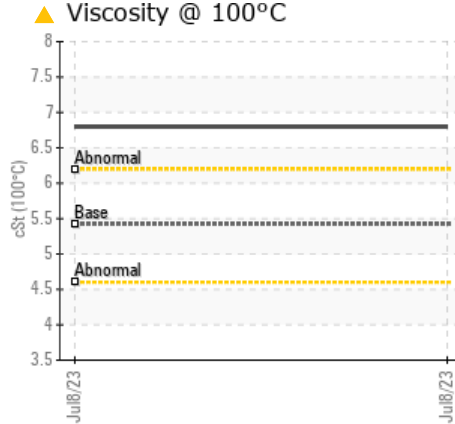
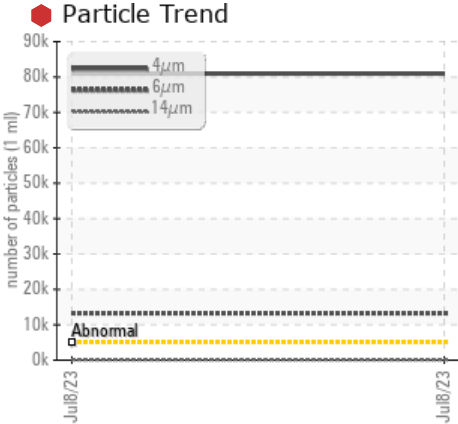
Machine Id
1851-5412-8004 - MOTOR

Component
Unknown Component

Fluid
PETRO CANADA TURBOFLO R&O 32 (--- GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Particles >4µm	ASTM D7647	>5000	80964	---	---	---
Particles >6µm	ASTM D7647	>1300	13256	---	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/21/14	---	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	32.0	46.4	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	5.42	6.8	---	---

Customer Id: INCVOS
Sample No.: PC0070123
Lab Number: 02578482
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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Kevin.Marson@wearcheck.com

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RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS



Machine Id
1851-5412-8004 - MOTOR

Component
Unknown Component

Fluid
PETRO CANADA TURBOFLO R&O 32 (--- GAL)



DIAGNOSIS

Recommendation
Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. 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 high amount of silt (particulates < 14 microns in size) present in the sample.

Fluid Condition
Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The sample 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	PC0070123	---	---
Sample Date	Client Info	08 Jul 2023	---	---
Machine Age	hrs Client Info	0	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
Sample Status		SEVERE	---	---

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	0	---	---
Iron	ppm ASTM D5185(m)	2	---	---
Chromium	ppm ASTM D5185(m)	0	---	---
Nickel	ppm ASTM D5185(m)	0	---	---
Titanium	ppm ASTM D5185(m)	0	---	---
Silver	ppm ASTM D5185(m)	0	---	---
Aluminum	ppm ASTM D5185(m)	<1	---	---
Lead	ppm ASTM D5185(m)	0	---	---
Copper	ppm ASTM D5185(m)	<1	---	---
Tin	ppm ASTM D5185(m)	0	---	---
Antimony	ppm ASTM D5185(m)	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)	<1	---	---
Barium	ppm ASTM D5185(m)	0	---	---
Molybdenum	ppm ASTM D5185(m)	0	---	---
Manganese	ppm ASTM D5185(m)	0	---	---
Magnesium	ppm ASTM D5185(m)	0	---	---
Calcium	ppm ASTM D5185(m) 0	4	---	---
Phosphorus	ppm ASTM D5185(m) 4	19	---	---
Zinc	ppm ASTM D5185(m) 0	8	---	---
Sulfur	ppm ASTM D5185(m)	344	---	---
Lithium	ppm ASTM D5185(m)	<1	---	---

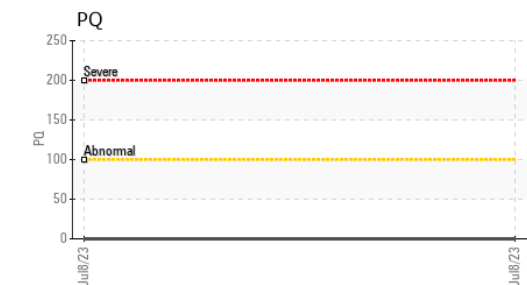
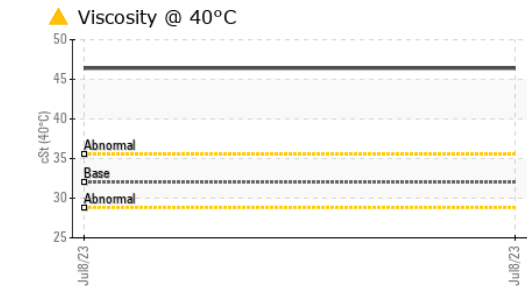
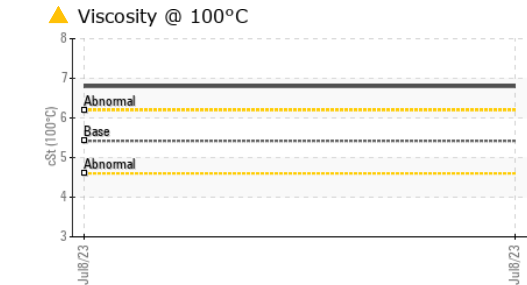
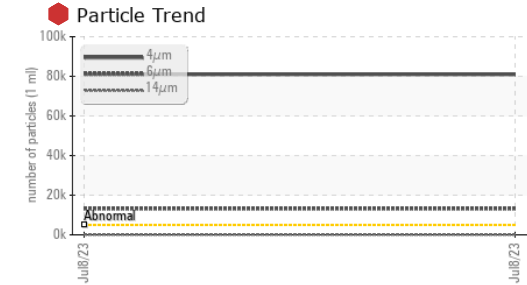
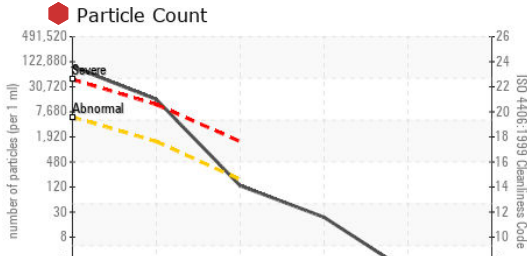
CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	<1	---	---
Sodium	ppm ASTM D5185(m)	1	---	---
Potassium	ppm ASTM D5185(m) >20	0	---	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	0	---	---
Nitration	Abs/cm ASTM D7624*	1.8	---	---
Sulfation	Abs/.1mm ASTM D7415*	12.3	---	---

OIL ANALYSIS REPORT



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	80964	---	---	
Particles >6µm	ASTM D7647	>1300	13256	---	---	
Particles >14µm	ASTM D7647	>160	114	---	---	
Particles >21µm	ASTM D7647	>40	20	---	---	
Particles >38µm	ASTM D7647	>10	1	---	---	
Particles >71µm	ASTM D7647	>3	0	---	---	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/21/14	---	---	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	3.4	---	---	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.15	0.08	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*	0.16	---	---	

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	VLITE	---	---
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*		NEG	---	---
Free Water	scalar	Visual*		NEG	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32.0	46.4	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	5.42	6.8	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	103	100	---	---

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



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0070123
Lab Number : 02578482
Unique Number : 5631542
Test Package : IND 2 (Additional Tests: FT-IR, KV100, PQ, PrtCount, TBN, VI)

Vale - Voisey's Bay
 Voisey's Bay Mine Site, P.O. Box 7001, Str. C Happy Valley
 Goose Bay, NL
 CA A0P 1C0
 Contact: Robert Feltham
 robert.feltham@vale.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: x: