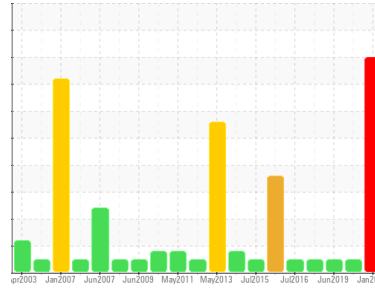


PROBLEM SUMMARY

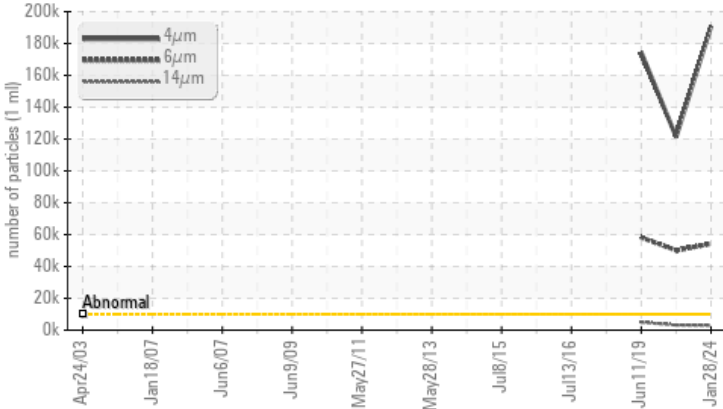
Sample Rating Trend



Area
Main Power Generation
Machine Id
Generator - MPG (Port) - Atomizing Compressor Crank Case (S/N Sample Tag XX-80201-S3)
Component
Compressor
Fluid
PETRO CANADA ENDURATEX EP 220 (2 LTR)

COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	NORMAL	NORMAL
Particles >4µm	ASTM D7647	>10000	190880	121442	174452
Particles >6µm	ASTM D7647	>2500	54257	50096	58196
Particles >14µm	ASTM D7647	>320	2935	3133	4910
Particles >21µm	ASTM D7647	>80	678	782	1395
Oil Cleanliness	ISO 4406 (c)	>20/18/15	25/23/19	24/23/19	25/23/19

Customer Id: TERHAM
Sample No.: PC
Lab Number: 02612845
Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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(289)291-4641 x4641
Bill.Quesnel@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
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 Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

16 Dec 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



11 Jun 2019 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. ISO Cleanliness Code (ISO 4406:1999): 25/23/19; Cumulative particle counts $>4\mu\text{m} = 174452$, $>6\mu\text{m} = 58196$, $>14\mu\text{m} = 4910$, $>21\mu\text{m} = 1395$, $>38\mu\text{m} = 22$, $>71\mu\text{m} = 0$. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



03 Jun 2017 Diag: Kevin Marson

NORMAL

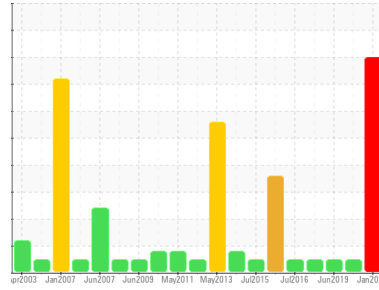


Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the component. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Area
Main Power Generation
Machine Id
Generator - MPG (Port) - Atomizing Compressor Crank Case (S/N Sample Tag XX-80201-S3)
Component
Compressor
Fluid
PETRO CANADA ENDURATEX EP 220 (2 LTR)



DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible.

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	PC	PC0076400	PC
Sample Date	Client Info	28 Jan 2024	16 Dec 2023	11 Jun 2019
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		SEVERE	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	0	0	9	
Iron	ppm	ASTM D5185(m) >50	6	4	8
Chromium	ppm	ASTM D5185(m) >5	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >15	<1	<1	<1
Lead	ppm	ASTM D5185(m) >65	0	0	<1
Copper	ppm	ASTM D5185(m) >65	2	2	2
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 60	76	81	22
Barium	ppm	ASTM D5185(m) 0	0	0	<1
Molybdenum	ppm	ASTM D5185(m) 0	0	0	<1
Manganese	ppm	ASTM D5185(m) 0	0	0	<1
Magnesium	ppm	ASTM D5185(m) 0	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 0	2	2	2
Phosphorus	ppm	ASTM D5185(m) 270	280	265	396
Zinc	ppm	ASTM D5185(m) 0	3	2	4
Sulfur	ppm	ASTM D5185(m) 11200	5783	5968	5791
Lithium	ppm	ASTM D5185(m)	<1	<1	0

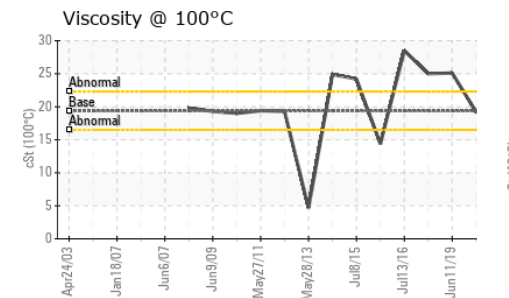
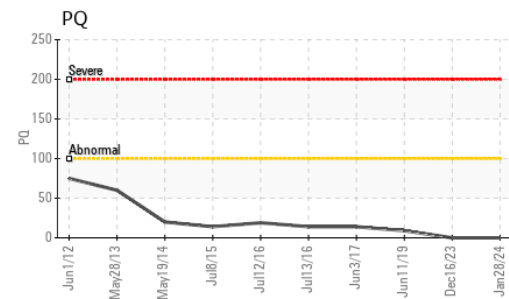
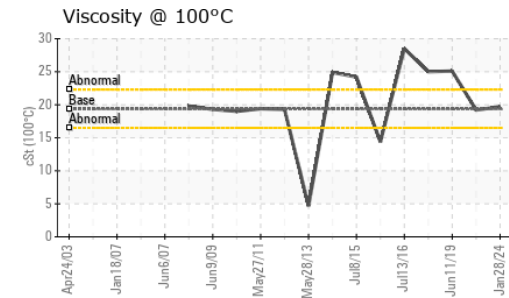
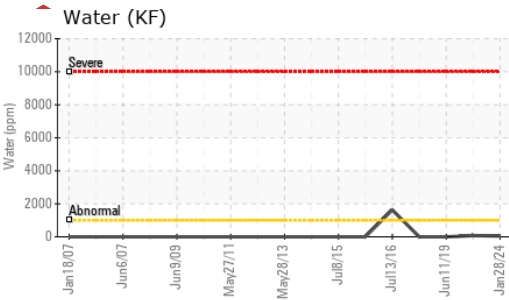
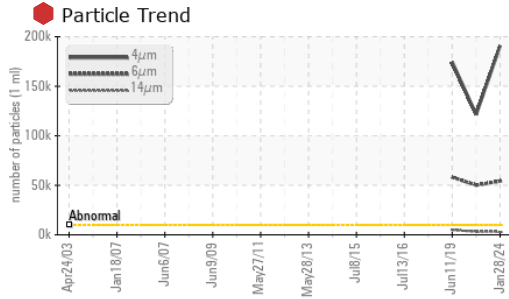
CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >35	4	4	1
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	1	<1
Water	%	ASTM D6304* >0.1	0.004	0.007	---
ppm Water	ppm	ASTM D6304* >1000	48	75	---

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	190880	121442	174452
Particles >6µm	ASTM D7647 >2500	54257	50096	58196
Particles >14µm	ASTM D7647 >320	2935	3133	4910
Particles >21µm	ASTM D7647 >80	678	782	1395
Particles >38µm	ASTM D7647 >20	2	29	22
Particles >71µm	ASTM D7647 >4	2	14	0
Oil Cleanliness	ISO 4406 (c) >20/18/15	25/23/19	24/23/19	25/23/19

OIL ANALYSIS REPORT



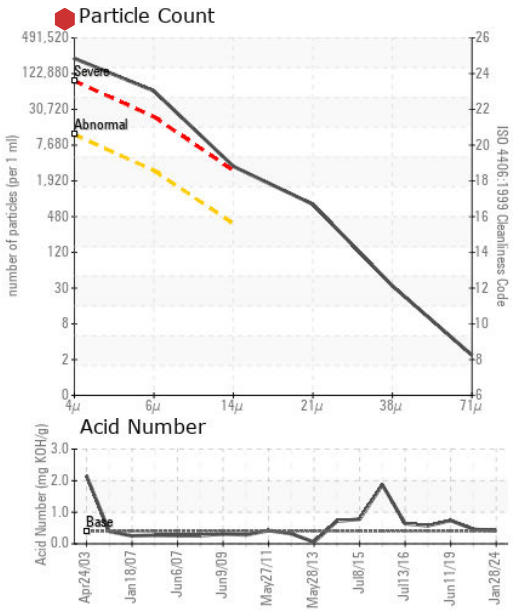
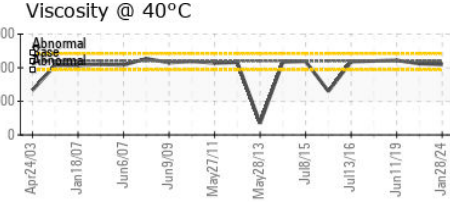
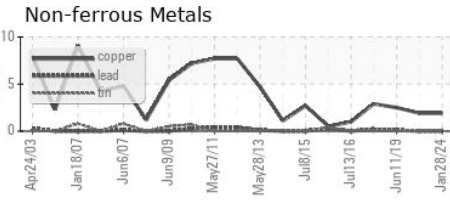
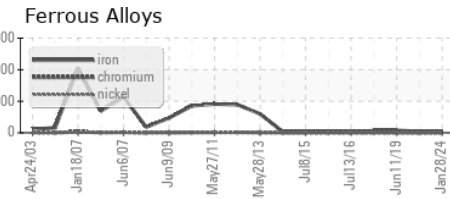
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	0.41	0.46	0.741

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	VLITE	VLITE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
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*	>0.1	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	210	212	222
Visc @ 100°C	cSt	ASTM D7279(m)	19.35	19.7	19.2	25.1
Viscosity Index (VI)	Scale	ASTM D2270*	99	107	102	142

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02612845
Unique Number : 5721940
Test Package : MAR 2 (Additional Tests: KF, KV100, PQ, PrtCount, VI)
Received : 01 Feb 2024
Diagnosed : 03 Feb 2024
Diagnostician : Bill Quesnel

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 St. John's, NL
 CA A1C 1B6
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 joshhynes@suncor.com
 T: (709)778-3575
 F: (709)724-2835

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.