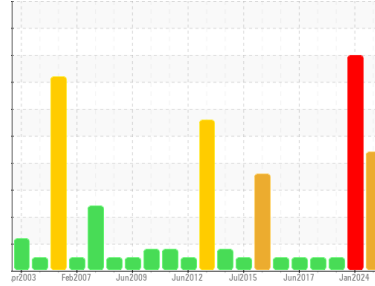
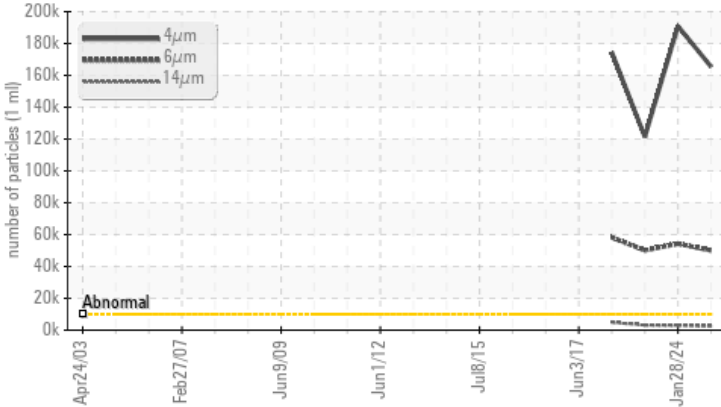


Area
Main Power Generation [450261626]
 Machine Id
Generator - MPG (Port) - Atomizing Compressor Crank Case (S/N Sample Tag XX-80201-S3)
 Component
Compressor
 Fluid
PETRO CANADA ENDURATEX EP 220 (2 LTR)



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	ASTM D7647	SEVERE	SEVERE	NORMAL
Particles >4µm	>10000	165448	190880	121442
Particles >6µm	>2500	50087	54257	50096
Particles >14µm	>320	2411	2935	3133
Particles >21µm	>80	510	678	782
Oil Cleanliness	ISO 4406 (c)	25/23/18	25/23/19	24/23/19

Customer Id: TERHAM
 Sample No.: PC0076665
 Lab Number: 02615033
 Test Package: MAR 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
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

28 Jan 2024 Diag: Bill Quesnel

ISO



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. All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



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

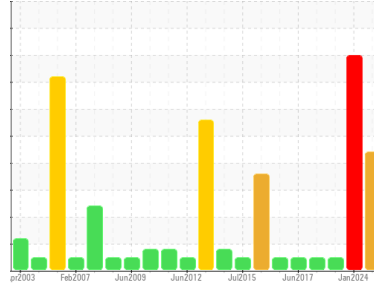


Resample at the next service interval to monitor. All component wear rates are normal. ISO Cleanliness Code (ISO 4406:1999): 25/23/19; Cumulative particle counts $>4\mu\text{m} = 174452$, $>6\mu\text{m} = 58196$, $>14\mu\text{m} = 4910$, $>21\mu\text{m} = 1395$, $>38\mu\text{m} = 22$, $>71\mu\text{m} = 0$. 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



Area
Main Power Generation [450261626]
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	PC0076665	PC	PC0076400
Sample Date	Client Info	06 Feb 2024	28 Jan 2024	16 Dec 2023
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	SEVERE	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	0	0	0	
Iron	ppm	ASTM D5185(m) >50	6	6	4
Chromium	ppm	ASTM D5185(m) >5	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	<1	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	0
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	77	76	81
Barium	ppm	ASTM D5185(m) 0	0	0	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	290	280	265
Zinc	ppm	ASTM D5185(m) 0	2	3	2
Sulfur	ppm	ASTM D5185(m) 11200	5978	5783	5968
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

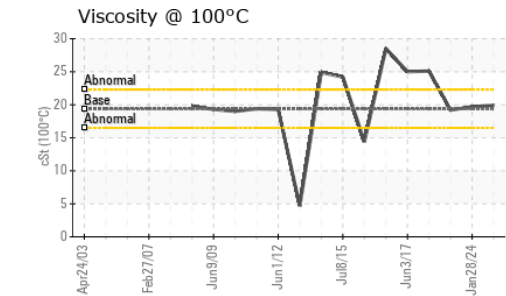
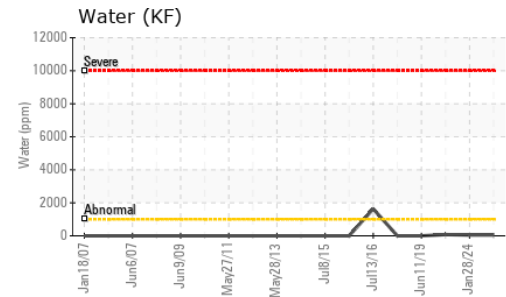
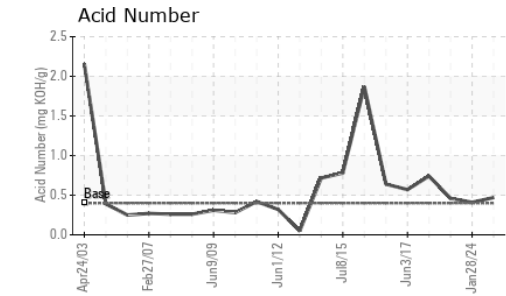
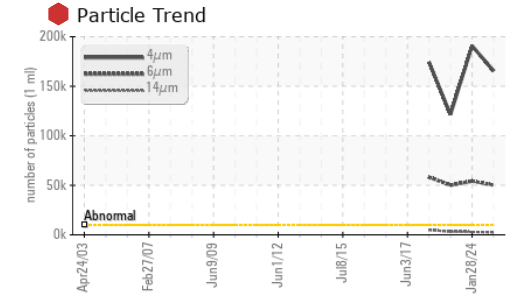
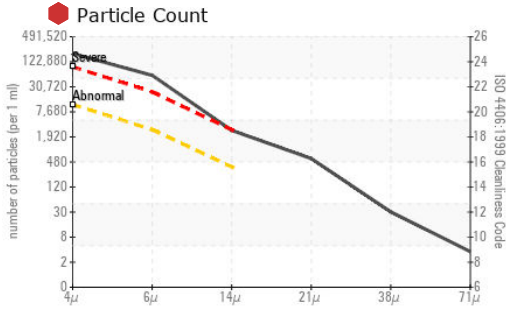
CONTAMINANTS

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

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	165448	190880	121442
Particles >6µm	ASTM D7647 >2500	50087	54257	50096
Particles >14µm	ASTM D7647 >320	2411	2935	3133
Particles >21µm	ASTM D7647 >80	510	678	782
Particles >38µm	ASTM D7647 >20	27	29	29
Particles >71µm	ASTM D7647 >4	3	2	14
Oil Cleanliness	ISO 4406 (c) >20/18/15	25/23/18	25/23/19	24/23/19

OIL ANALYSIS REPORT

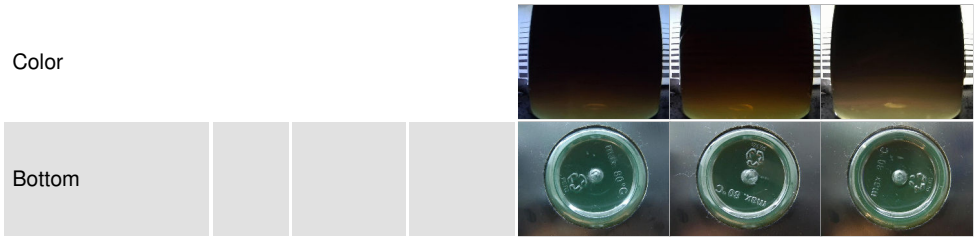


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	0.47	0.41	0.46

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	VLITE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	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*	>0.1	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	210	212
Visc @ 100°C	cSt	ASTM D7279(m)	19.35	19.9	19.7	19.2
Viscosity Index (VI)	Scale	ASTM D2270*	99	109	107	102

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076665 **Received** : 12 Feb 2024
Lab Number : **02615033** **Tested** : 13 Feb 2024
Unique Number : 5724128 **Diagnosed** : 14 Feb 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KF, KV100, PQ, PrtCount, TAN Man, VI)

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Strret
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshynes@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.