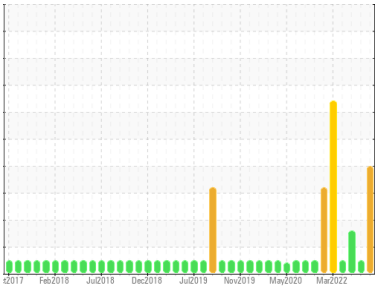
PROBLEM SUMMARY

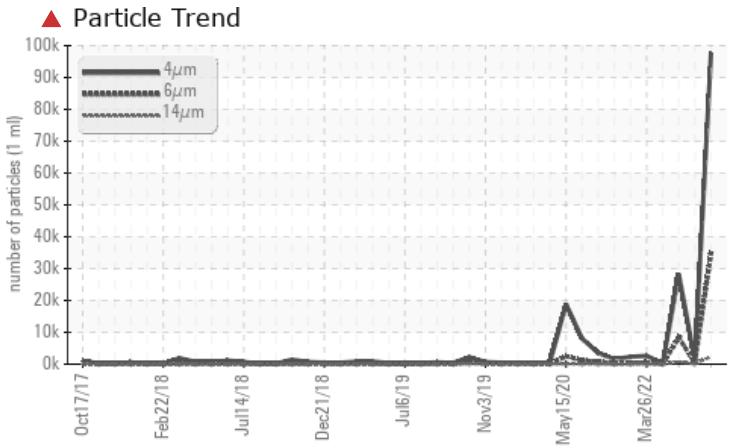
Sample Rating Trend

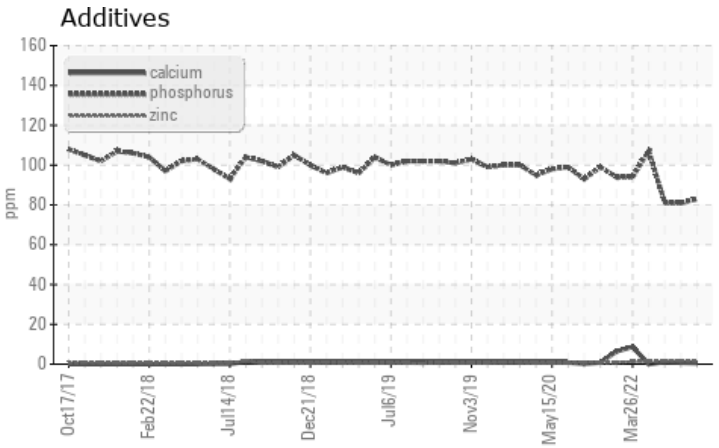


ISO

Area
Gas Compression
Machine Id
Compressor (HP1) - Lubrication System (S/N Sample Tag XX-23003-S1)
Component
Lube System
Fluid
PETRO CANADA TURBOFLO XL32 (10350 LTR)

COMPONENT CONDITION SUMMARY





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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Particles >6µm		ASTM D7647	>2500	▲ **34682**	350	▲ 8313
Particles >14µm		ASTM D7647	>320	▲ **2420**	49	▲ 681
Particles >21µm		ASTM D7647	>80	▲ **567**	18	▲ 164
Oil Cleanliness		ISO 4406 (c)	>--/18/15	▲ **24/22/18**	17/16/13	▲ 22/20/17

Customer Id: TERHAM
Sample No.: PC0082745
Lab Number: 02622709
Test Package: MAR 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
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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.
Contact Required	---	---	?	Please contact your representative for information regarding the proper sampling kits for your service.
Alert	---	---	?	NOTE: We recommend using MAR 3 test kits,
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.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.
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

29 Jan 2024 Diag: Kevin Marson

NORMAL

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.Component wear rates appear to be normal (unconfirmed). The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

05 Jan 2024 Diag: Kevin Marson

ISO

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as PETRO CANADA TURBOFLO XL32, however, a fluid match indicates that this fluid is ISO 32 R&O Hydraulic Oil. Please confirm the oil type and grade on your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.Component wear rates appear to be normal (unconfirmed). There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed).

view report

13 Mar 2023 Diag: Kevin Marson

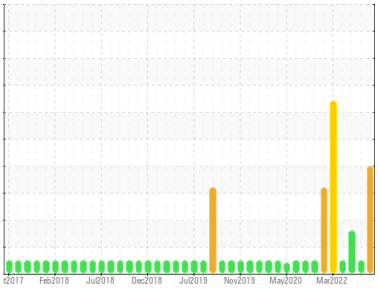
NORMAL

Resample at the next service interval to monitor. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.Component wear rates appear to be normal (unconfirmed). The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Gas Compression
Machine Id
Compressor (HP1) - Lubrication System (S/N Sample Tag XX-23003-S1)
Component
Lube System
Fluid
PETRO CANADA TURBOFLO XL32 (10350 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

Wear

Component wear rates appear to be normal (unconfirmed).

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. 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		**PC0082745**	PC0076668	PC0076380
Sample Date		Client Info		**01 Mar 2024**	29 Jan 2024	05 Jan 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	**NEG**	NEG	NEG

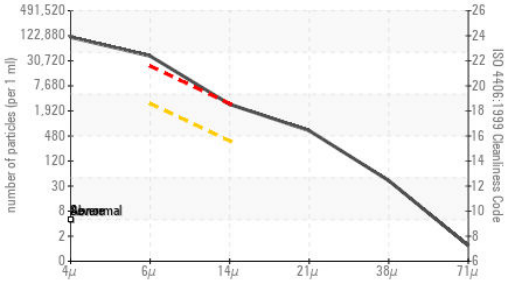
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>20	**1**	0	<1
Chromium	ppm	ASTM D5185(m)	>10	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>10	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>20	**0**	0	0
Copper	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
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)	0	**0**	0	0
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	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	<1	1
Phosphorus	ppm	ASTM D5185(m)	5	**83**	81	81
Zinc	ppm	ASTM D5185(m)	0	**1**	2	2
Sulfur	ppm	ASTM D5185(m)	750	**262**	262	267
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

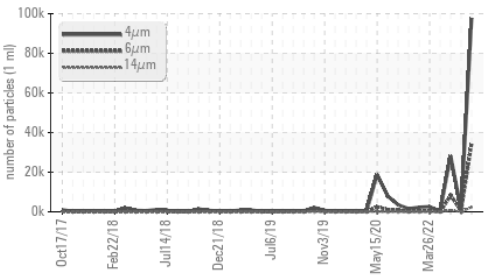
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**1**	2	1
Sodium	ppm	ASTM D5185(m)		**<1**	0	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

OIL ANALYSIS REPORT

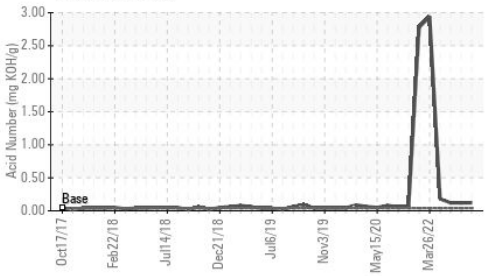
Particle Count



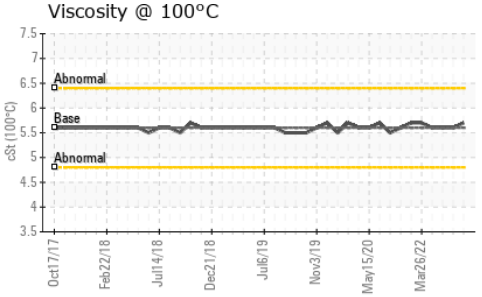
Particle Trend



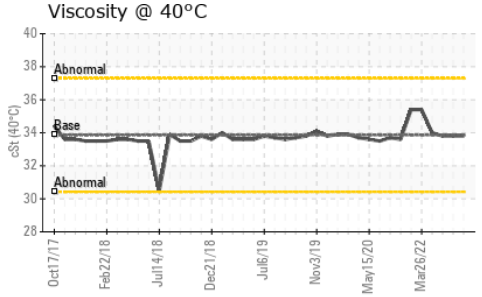
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C

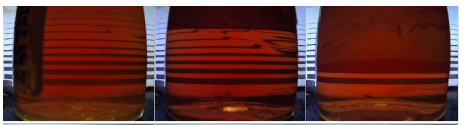


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**97668**	1150	28209
Particles >6µm		ASTM D7647	>2500	▲ **34682**	350	▲ 8313
Particles >14µm		ASTM D7647	>320	▲ **2420**	49	▲ 681
Particles >21µm		ASTM D7647	>80	▲ **567**	18	▲ 164
Particles >38µm		ASTM D7647	>20	● **36**	3	12
Particles >71µm		ASTM D7647	>4	**1**	2	1
Oil Cleanliness		ISO 4406 (c)	>--/18/15	▲ **24/22/18**	17/16/13	▲ 22/20/17

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	**0.12**	0.12	0.12

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Silt	scalar	Visual*	NONE	**NONE**	NONE	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*	>0.05	**NEG**	NEG	.5%
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	33.86	**33.8**	33.8	33.8
Visc @ 100°C	cSt	ASTM D7279(m)	5.60	**5.7**	5.6	5.6
Viscosity Index (VI)	Scale	ASTM D2270*	101	**108**	102	102

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0082745 **Received** : 18 Mar 2024
Lab Number : 02622709 **Tested** : 19 Mar 2024
Unique Number : 5747828 **Diagnosed** : 19 Mar 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI)

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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