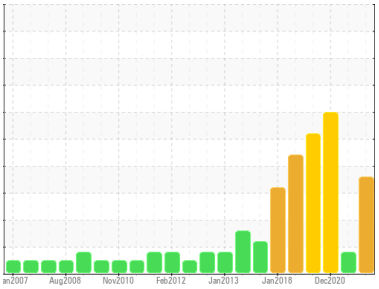
PROBLEM SUMMARY

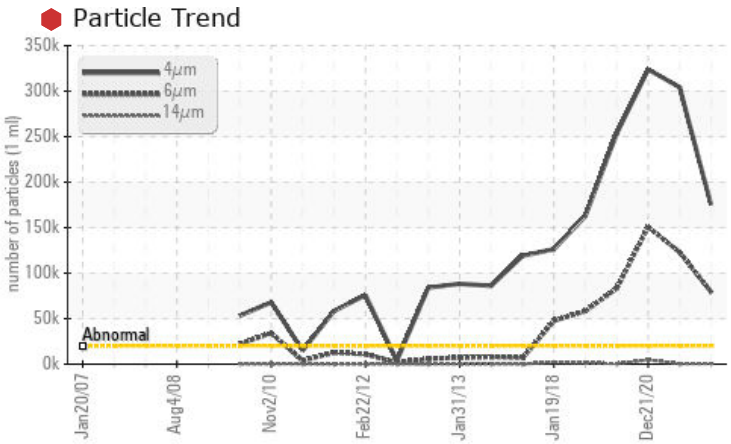
Sample Rating Trend



ISO

Area
1623
Machine Id
1623-5522-6002 - RECLAIM CONVEYOR 1
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 220 (75 LTR)

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ATTENTION	SEVERE
Particles >4µm		ASTM D7647	>20000	**175263**	304360	323756
Particles >6µm		ASTM D7647	>5000	**79437**	122957	150760
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**25/23/16**	25/24/16	26/24/19

Customer Id: INCVOS
Sample No.: PC0070744
Lab Number: 02616087
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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 recommend you service the filters on this component.
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 Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

09 Feb 2022 Diag: Kevin Marson

WEAR

Resample at the next service interval to monitor.Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other component wear rates are normal. 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

21 Dec 2020 Diag: Kevin Marson

ISO

We advise that you check for the source of water entry. 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 advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. Particles >6µm are severely high. Particles >4µm are severely high. Particles >4µm are severely high.. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Free water present. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

03 Apr 2019 Diag: Kevin Marson

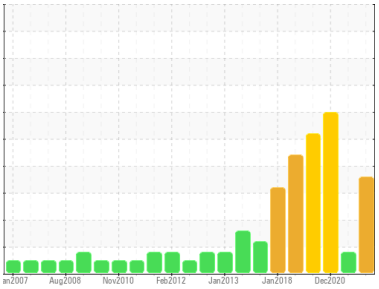
ISO

We advise that you check for the source of water entry. 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 advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. Particles >6µm are severely high. Particles >4µm are severely high. There is a moderate concentration of water present in the oil. Free water present. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
1623
Machine Id
1623-5522-6002 - RECLAIM CONVEYOR 1
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 220 (75 LTR)

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.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 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

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		**PC0070744**	PC0039891	PC0022903
Sample Date		Client Info		**08 Feb 2024**	09 Feb 2022	21 Dec 2020
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	N/A	N/A
Sample Status				**SEVERE**	ATTENTION	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

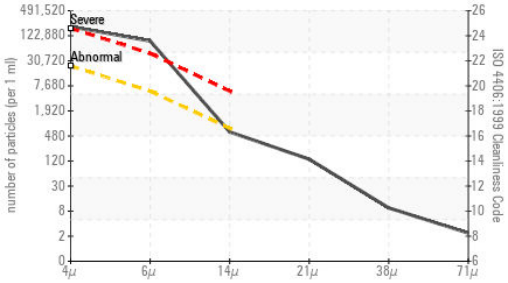
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>200	**122**	▲ 282	▲ 304
Chromium	ppm	ASTM D5185(m)	>15	**<1**	3	3
Nickel	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	<1
Silver	ppm	ASTM D5185(m)		**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>100	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>200	**<1**	<1	1
Tin	ppm	ASTM D5185(m)	>25	**0**	0	0
Antimony	ppm	ASTM D5185(m)	>5	**0**	<1	<1
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)	33	**20**	7	6
Barium	ppm	ASTM D5185(m)	5	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	<1
Manganese	ppm	ASTM D5185(m)		**0**	1	2
Magnesium	ppm	ASTM D5185(m)	5	**<1**	2	1
Calcium	ppm	ASTM D5185(m)	5	**7**	2	2
Phosphorus	ppm	ASTM D5185(m)	437	**389**	306	316
Zinc	ppm	ASTM D5185(m)	5	**16**	20	23
Sulfur	ppm	ASTM D5185(m)	5000	**5230**	3134	3352
Lithium	ppm	ASTM D5185(m)		**<1**	4	5

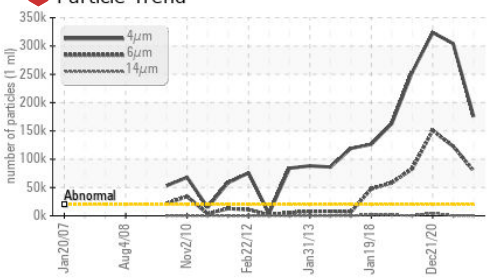
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**1**	3	4
Sodium	ppm	ASTM D5185(m)		**0**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

OIL ANALYSIS REPORT

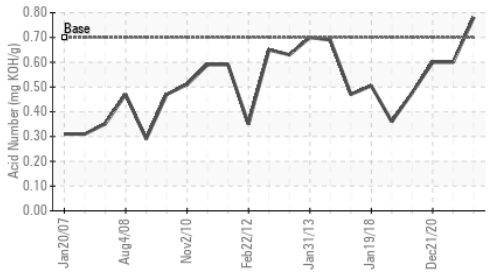
Particle Count



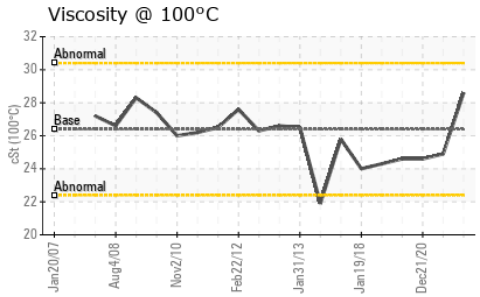
Particle Trend



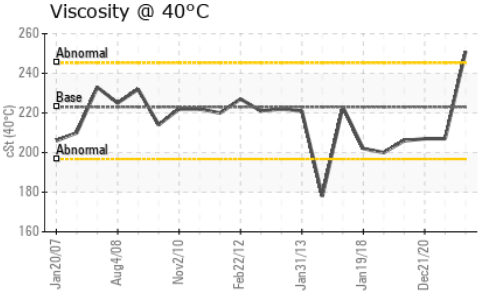
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	**175263**	304360	323756
Particles >6µm	ASTM D7647	>5000	**79437**	122957	150760
Particles >14µm	ASTM D7647	>640	**527**	389	4627
Particles >21µm	ASTM D7647	>160	**117**	49	757
Particles >38µm	ASTM D7647	>40	**8**	2	15
Particles >71µm	ASTM D7647	>10	**2**	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	**25/23/16**	25/24/16	26/24/19

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.7	**0.78**	0.60	0.60

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	.2%
Free Water	scalar	Visual*		**NEG**	NEG	.2%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	223	**251**	207	207
Visc @ 100°C	cSt	ASTM D7279(m)	26.39	**28.6**	24.9	24.6
Viscosity Index (VI)	Scale	ASTM D2270*	151	**150**	150	148

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. : PC0070744 **Received** : 15 Feb 2024
Lab Number : 02616087 **Tested** : 16 Feb 2024
Unique Number : 5733197 **Diagnosed** : 16 Feb 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, 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.

Vale - Voisey`s Bay
Voisey's Bay Mine Site, P.O. Box 7001, Stn. C Happy Valley
Goose Bay, NL
CA A0P 1C0
Contact: Robert Feltham
robert.feltham@vale.com
T:
F: x: